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ABSTRACT

This guide examines claims for 24 schoolwide programs-- programs that promise to improve student learning by changing the entire school. Focusing on quantitative achievement measures such as test scores, grades, and graduation rates, the report was prepared for educators and others to assist them in their investigation of different approaches to school reform. The programs considered here are Accelerated Schools; America's Choice; ATLAS Communities; Audrey Cohen College: Purpose-Centered Education; Basic Schools Network; Coalition of Essential Schools; Community for Learning; Co-NECT; Core Knowledge; Different Ways of Knowing; Direct Instruction; Expeditionary Learning Outward Bound; The Foxfire Fund; High Schools that Work; High/Scope K-3 Model; League of Professional Schools; Modern Red Schoolhouse; Onward to Excellence; Paideia; Roots and Wings; School Development Program; Success for All; Talent Development High School with Career Academies; and Urban Learning Centers. Brief profiles of the programs explain the ratings each program received, provide additional information about key features, and include the name and address of each program's developer. A reference section lists papers, articles, and books about the approaches, and 8 appendices offer detailed information on the procedures used to review and rate the approaches, as well as tables that provide additional information. (Includes approximately 220 references.) (RJM)

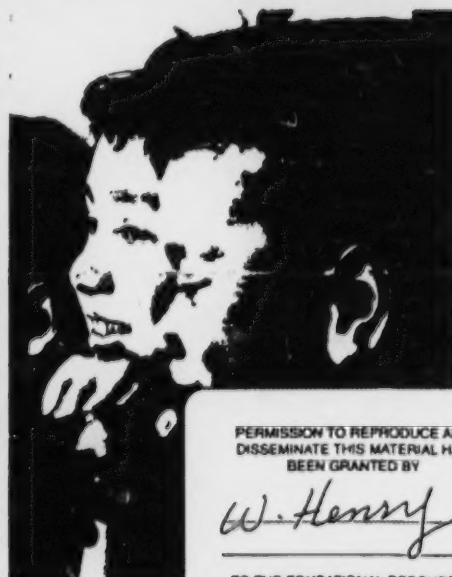
An Educators' Guide to Schoolwide Reform

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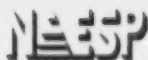


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Dear Colleague:

Much has been written lately about schoolwide programs, those efforts that promise to improve student learning by changing the entire school. Most of the prose describing these approaches remains uncomfortably silent about their effectiveness.

And that's what brought a group of us together: the need for our collective memberships to determine what works, and what just holds promise, among the variety of schoolwide approaches now available for adoption.

This report examines the claims for 24 schoolwide approaches. It draws on the expertise of the American Institutes for Research (AIR), an independent, internationally recognized research organization. First, the approaches to be examined were identified; then AIR was asked to rate their effectiveness in raising student achievement and to describe the approaches along a number of dimensions.

Due to the nature of this review, quantitative achievement measures are highlighted. This is not to discount the validity of qualitative research or the importance of such outcomes as a more positive school atmosphere and increased student satisfaction. However, it is through measurable achievement outcomes—test scores, grades, graduation rates—that students and their schools are held accountable. Thus, before agreeing to launch a large-scale reform, most school staffs, parents, and policymakers want to know the probability that students will benefit in measurable ways.

This review found that only a few approaches have documented their positive effects on student achievement. Several approaches appear to hold promise, but lack evidence to verify this conclusion. In some cases, this lack of evidence is understandable: the approach is just too new to have collected the necessary data. In other cases, the approach's developers and the school systems that use it never got around to conducting a systematic evaluation. These approaches may still be effective; that being the case, we can only hope that rigorous evaluations of their effectiveness occur soon.

This complicated exercise introduced us to excellent developers, enlightened policy-makers, and courageous educators. Together they are improving educational opportunities for children. But it also introduced us to two challenges that confront those concerned about educational improvement.

First, the nation's educational research and development enterprise needs to be strengthened. More research is needed, to be sure. But just as important, the federal government should invest more in what is known as programmatic research and development.

Further, private industry should share this enormous responsibility by investing in ongoing research as well as engaging in the development of school reform programs. That is, funds are badly needed to enable researchers and developers to build on new knowledge to create schoolwide approaches that integrate curriculum, instruction, assessment, and professional development. Some of the 24 approaches we examined emerged from such a process. More are needed.

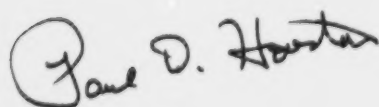
Second, once they have been introduced in schools, approaches need to be studied carefully over time to determine their effectiveness. Before making adoption decisions, educators should have sufficient data to answer such basic questions as: Does this approach raise achievement as its developer claims? Is it compatible with state and districtwide reform initiatives? With which groups of students does it get the best results? Are most school staffs able to use it as designed? Can it be implemented at a reasonable cost? What kind of implementation support does the developer provide?

No reform will work everywhere every time. But if we could get answers to these questions, everyone would know which approaches constitute their "best bets." Educators could then significantly increase the odds of choosing a successful approach that addresses their students' most pressing needs. At the same time, teachers and administrators also would know which developers provide the kind of assistance needed to implement their approaches successfully.

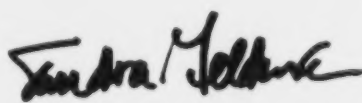
While more work needs to be done, we believe this initial in-depth review allows us to suggest that school systems do have choices, and good ones at that, when it comes to improving student achievement. We urge our members to read this report. We believe it can be the catalyst for meaningful discussion among educators, administrators, and parents as they go about the challenges of improving the performance of their schools.

In the meantime, we pledge at the national level to continue our advocacy for more approaches that can demonstrate their ability to help improve teaching and learning.

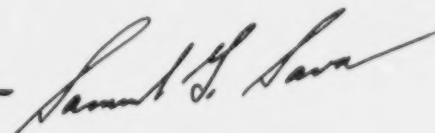
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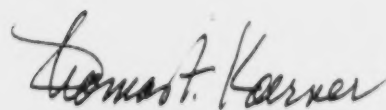
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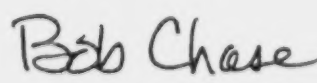
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Rebecca Herman
Project Director

OVERVIEW

This guide was prepared for educators and others to use when investigating different approaches to school reform. It reviews the research on 24 "whole-school," "comprehensive," or "schoolwide" approaches.¹

Schoolwide reform is an increasingly popular school improvement strategy, especially for low-performing, high-poverty schools. In 1994, the U.S. Congress made it easier for schools to organize themselves in this way. For the first time, schools with student poverty rates as low as 50 percent could use Title I funds to improve the entire school.² Then, in 1997, Congress authorized an additional \$145 million per year to help low-performing (mostly Title I) schools raise student achievement by adopting "research-based, schoolwide" approaches.³

Thousands of schools across the country have begun to consider schoolwide reform seriously. Unfortunately, it is difficult for these schools to obtain accurate, objective information they can use to decide whether schoolwide reform is right for them and, if so, which approaches are most likely to meet their needs. This guide provides that information.

While several reports catalog available schoolwide approaches, and some even provide limited evaluations, this is the only guide that rates the approaches against a common set of high standards or compares them to one another in terms of scientifically reliable evidence. This work was conducted by the American Institutes for Research (AIR) under contract to the American Association of School Administrators, American Federa-

tion of Teachers, National Association of Elementary School Principals, National Association of Secondary School Principals, and National Education Association. These organizations used an open, competitive process to select AIR.⁴ The sponsoring organizations set the scope for the original project and, with the scientific advisors, provided feedback on the methodology. AIR conducted the ratings independently.

An at-a-glance summary of all 24 approaches opens the guide. This one-page table provides a snapshot of the approaches' relative strengths in three areas: (a) evidence of positive effects on student achievement; (b) support developers provide schools as they adopt the approaches; and (c) first-year adoption costs.

Brief profiles of the approaches follow. Each profile explains the ratings the approach received, provides additional information about its key features, and includes the name and address of its developer.

The guide's reference section lists papers, articles, and books about the approaches and their effectiveness. In Appendices A through G, readers will find detailed information on the procedures AIR used to review and rate the approaches, plus tables that provide additional information about each approach's effects on student achievement, implementation, and costs.

This guide is not meant to endorse, favor, or discredit any of the approaches. Rather, it is designed to assist readers who want to critically examine the most widely available schoolwide

reform approaches. Schools can improve their performance in a variety of ways, not just by using a schoolwide approach. However, educators interested in these approaches should find the guide useful.

TWENTY-FOUR SCHOOL REFORM APPROACHES AT A GLANCE

The table on page 4 summarizes the reviews of all 24 schoolwide approaches.

The information it provides is limited. To fully understand the ratings, readers are encouraged to review the profiles. The table provides a snapshot of the information that was available at the time this guide was prepared. Developers continue to modify and strengthen the approaches and to gather and report information on their effectiveness.

READING THE TABLE

The table presents information in five areas: evidence of positive effects on student achievement; year each approach was introduced in schools; number of schools using the approaches; support developers provide schools; and first-year adoption costs (high and low estimates).

Approaches are rated in two of these areas: evidence of positive effects on student achievement, and support developers provide schools. A full circle (●) indicates a strength. An empty circle (○) indicates a weakness. The half-filled circle (◐) suggests promise, and the quarter circle (◑) indicates a marginal rating. The question mark (?) indicates that the research evidence is so limited that there really is no evidence on which to assess effects on student achievement or the support the developer provides schools.

The table can be read by rows and by columns. For example, the row on *Support Developer Provides Schools* indicates that the developers of 12 approaches provide schools with "strong" implementation support. Ten developers provide "prom-

ising" support for implementation, and two provide "marginal" support.

The columns in the table provide an at-a-glance summary of each approach. For example, the column on Core Knowledge indicates that schools have used this approach since 1990. There are currently 750 Core Knowledge schools. A review of the studies that have examined Core Knowledge schools indicates it has "promising" evidence of effects on student achievement, provides schools with "promising" support for implementation, and is moderately expensive to put in place.

To the right side of the table, the column on Talent Development High School indicates that ten schools are using this approach, which was first introduced to schools in 1994. Studies of Talent Development High School show "marginal" evidence of effects on students and "strong" support provided by the developer for implementation. Costs to adopt this approach are moderate.

UNDERSTANDING THE RATINGS

Evidence of Positive Effects on Student Achievement. The first row of the table presents ratings for *Evidence of Positive Effects on Student Achievement*. Each approach is rated on a five-point scale ranging from "strong" evidence of positive effects to a "no research" rating, which indicates there are no rigorous studies on which to judge the approach's effects on student achievement. Each rating is explained in the key on page 3, and discussed in detail in Appendix A.

The ratings were compiled from individual reviews of available studies, each of which was ranked according to methodological criteria such as sample size, duration of the study, appropriateness of comparison groups, and relevance of measurement instruments.

In general, evidence of positive effects on student achievement—arguably the most important feature of any reform approach—is extremely lim-

ited. Even though many of the approaches have been in schools for years, only three provide strong evidence of positive effects on student achievement. As a result, educators often are considering schoolwide reform without vital information on which to make decisions. More rigorous evaluations are needed, with broad dissemination of findings.⁵

Support Developer Provides Schools. The fourth row of the table presents ratings for the *Support Developer Provides Schools*. This four-point rating ranges from strong implementation support, in which developers provide a range of services, to weak support, in which developers only provide initial training for school staffs. Higher ratings indicate that the developers provide access to appropriate types of support, fre-

RATINGS OF EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

● = Strong evidence of positive effects on student achievement

A *strong* rating indicates that four or more studies, using rigorous methodologies, show some positive effects on student achievement,⁶ with at least three of such studies showing effects that are educationally (or statistically) significant. Further, only 20 percent of studies show negative or no effects on students. To ensure enough information for future replications, at least one study provides information on implementation as well as on effects.

◐ = Promising evidence of positive effects on student achievement

A *promising* rating indicates that three or more studies, using rigorous methodologies, show positive effects of the approach on student achievement, with at least one such study showing effects at statistically or educationally significant levels. No more than 30 percent of studies show negative or no effects on students, and at least one study provides information on implementation. Evidence that is rated as *promising*, rather than *strong*, may include fewer studies using rigorous methodologies, fewer studies showing significant effects, or a higher proportion of studies showing negative or no effects.

◑ = Marginal evidence of positive effects on student achievement

A *marginal* rating indicates that at least one study, using rigorous methodology, shows positive effects of the approach on student achievement. At least 50 percent of studies show positive effects on student achievement. Evidence that is rated *marginal* rather than *promising* may include fewer studies using rigorous methodologies, fewer studies showing significant effects, or a higher proportion of studies showing negative or no effects.

○ = Evidence of mixed, weak, or no effects on student achievement

A *mixed, weak, or no effects* rating indicates that at least one study, using rigorous methodology, shows negative or no effects of the approach on student achievement. Evidence that is rated *mixed, weak, or no effects* rather than *marginal* may include the same number and quality of studies, but the findings are negative or ambiguous rather than positive.

? = No research on effects on student achievement

A *no research* rating indicates there are no methodologically rigorous studies by which to assess effects of the approach on student achievement.

24 SCHOOLWIDE REFORM APPROACHES AT A GLANCE¹

As of October 30, 1998

	Accelerated Schools (K-8)	America's Choice (K-12)	ATLAS Communities (PreK-12)	Audrey Cohen College (K-12)	Basic Schools Network (K-12)	Coalition of Essential Schools (K-12)	Community for Learning (K-12)	Co-NECT (K-12)	Core Knowledge (K-8)	Different Ways of Knowing (K-7)	Direct Instruction (K-6)	Expeditionary Learning Outward Bound (K-12)	The Foxfire Fund (K-12)	High Schools That Work (9-12)	High/Scope (K-3)	League of Professional Schools (K-12)	Modern Red Schoolhouse (K-12)	Onward to Excellence (K-12)	Paideia (K-12)	Roots and Wings (PreK-6)	School Development Program (K-12)	Success for All (PreK-6)	Talent Development High School (9-12)	Urban Learning Centers (PreK-12)
Evidence of positive effects on student achievement ²	●	?	?	?	?	○	●	?	●	●	●	●	?	●	●	●	?	●	○	●	●	●	●	?
Year introduced in schools	'86	'98	'92	'70	'92	'84	'90	'92	'90	'89	late '60s	'92	'66	'87	'67	'89	'93	'81	'82	'93	'68	'87	'94	'93
Number of schools	1,000	300	63	16	150	1,000	92	75	750	412	150	65	NA	860	27	158	50	1,000	80	200	700	1,130	10	13
Support developer provides schools	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
First-year costs ³	\$27	\$190	\$98	\$161	\$12	NA	\$157	\$588	\$56	\$84	\$244	\$81	\$65	\$48	\$130 ⁴	\$13	\$215	\$72	\$146	\$270	\$45	\$270	\$57	\$169
First-year costs with current staff reassigned ³	\$14	\$90	\$90	\$86	NC	NA	\$82	NC	NC	NC	\$194	NC	NC	NC	NC	NC	NC	\$60	\$96	\$70	\$32	\$70	\$27	\$159

● = Strong ● = Promising ● = Marginal ○ = Mixed, Weak ? = No Research NA = Not Available NC = No Change

¹This table summarizes information from *An Educators' Guide to Schoolwide Reform*.

²Although many types of student outcomes are important, evidence of positive effects on student achievement is a key consideration in selecting schoolwide reforms.

However, some schools may wish to consider a new approach that has not yet developed strong evidence of effectiveness, but provides the strongest match with school goals.

³Costs are in thousands of dollars (e.g., \$62=\$62,000). ⁴The estimate for High/Scope assumes a school of 25 K-3 teachers.

EXPLANATION OF "24 SCHOOLWIDE REFORM APPROACHES AT A GLANCE" TABLE

Evidence of positive effects on student achievement: To arrive at this rating, studies that report achievement effects were reviewed. The studies report student achievement on: standardized tests, including mandated statewide assessments; assessments embedded in a specific curriculum; teacher-designed assessments; reading inventories; and the National Assessment of Educational Progress. Evidence of effects on achievement also includes students' course-taking patterns; daily attendance rates; graduation rates; within-grade retention rates; and letter grades. The final rating reflects the *amount* of rigorous research and the *strength of the findings* from that research.

Year introduced in schools: This date refers to the year schools first used the approach. This is included so that readers can judge whether the ratings are influenced by the newness of the approach.

Number of schools: This reflects the number of schools developers reported were using each approach as of October 30, 1998. This includes all schools that are using the approach, regardless of the length and level of implementation.

Support developer provides schools: This rating reflects: (a) access to appropriate types of support (e.g., staff development, technical assistance visits, materials, Web site access); (b) frequency and duration of support; and (c) availability of tools to help schools monitor their implementation of the approach.

First-year costs: This estimates costs associated with developers' requirements or recommendations related to: (a) additional personnel schools must hire to meet developers' staffing requirements; (b) curriculum and other materials; and (c) staff development. Unless otherwise noted, costs are based on an estimated school size of 500 students and 25 teachers and other certified staff.

First-year costs with current staff reassigned: This estimates costs for schools that are able to implement the approach by reassigning existing personnel, rather than hiring additional staff, to meet developers' staffing requirements. This includes costs associated with developers' requirements or recommendations related to: (a) curriculum and other materials, and (b) staff development. Most, if not all, of the approaches have been implemented by schools with schoolwide Title I funding. Such schools may be able to implement the approaches using existing resources, including staff.

Special Note: Readers are encouraged to use this table in conjunction with the entire guide, which explains in detail how the approaches were reviewed and rated. The guide provides information about key features specific to each approach, as well as detailed information on: the costs of adopting the approaches; studies documenting effects on students; experiences reported by school staffs; and the characteristics of schools and students using each approach.

quent support over an extended time, and tools to help schools evaluate implementation.⁷

Each rating is explained in the key below, and discussed in detail in Appendix D.

It is important to note, however, that some developers may not provide extensive support because schools do not need it to implement a particular approach successfully. To get a full picture of what kinds of changes are required of schools and what kinds of support are offered, readers should compare profiles.

UNDERSTANDING THE CONTEXT FOR THE RATINGS

The table provides contextual information about the approaches in three areas: the year each approach was first introduced in schools, the number of schools using each approach, and first-year adoption costs.

Year Introduced in Schools. The second row of the table shows the year each approach was first introduced in schools. This information provides some context for interpreting findings. Depending on the approach, it may take three years to fully implement and an additional two years to evaluate. Approaches that have been in schools for five or fewer years may have lower ratings for *Evidence of Positive Effects on Student Achievement* than approaches that have operated in schools for some time because there has not been a sufficient period of time for such data to be collected.

Number of Schools. The third row shows the number of schools across the country that had implemented the approaches as of fall 1998. These are the schools that each developer reports are using their entire approach; it does not include schools that only use materials or implement selected components of an approach.

RATINGS OF SUPPORT DEVELOPER PROVIDES SCHOOLS

● = Strong implementation support

A *strong* rating indicates that the developer ensures that schools receive frequent on-site technical assistance; a variety of types of support; support for the full implementation period (i.e., three years); and guidance in developing the tools to manage implementation locally.

◐ = Promising implementation support

A *promising* rating indicates that the developer ensures that schools receive some on-site technical assistance; a variety of types of support; and support for the full implementation period. Support that is rated *promising* rather than *strong* may have less frequent on-site support, less variety in types of support, and/or no help developing tools for managing implementation locally.

◑ = Marginal implementation support

A *marginal* rating indicates that the developer provides a variety of support in response to schools' requests for at least one year of implementation. Support that is rated *marginal* rather than *promising* may provide support in response to requests, rather than ensuring that all schools receive at least a minimum amount of support, and/or may provide support for less than three years.

○ = Weak implementation support

A *weak* rating indicates that the developer does not provide any support beyond training before implementation.

The number of schools using an approach is one indication of whether it can be replicated or implemented in more than one setting. It also is included so that readers can compare the total number of schools using a particular approach to the number that have been involved in research studies of that approach (see Appendix C). The number of schools studied should be large enough (and sufficiently representative of all schools using the approach) so that educators are confident that research findings provide an accurate picture of the approach's strengths and weaknesses.

First-Year Adoption Costs. The fifth and sixth rows in the table highlight the first-year costs of adopting the approaches. The costs are presented in two ways. The first—labeled first-year costs—is the higher of the two figures. It estimates schools' costs if they must hire additional personnel to meet developers' staffing requirements. For example, some developers require schools to have a full-time school-based facilitator or coordinator. If current staff members cannot fill these roles, schools need to hire additional staff. The second cost estimate—first-year costs with current staff reassigned—is the cost schools incur if they are able to reassign current staff members to meet developers' staffing requirements. Unless otherwise noted, costs are estimated for a school with 500 students and 25 teachers and other certified staff.

HOW THE APPROACHES WERE SELECTED

Five criteria were used to select the 24 approaches reviewed:

1. They are promoted by their developers as a means to improve student achievement in low-performing schools.
2. They are mentioned by name in the federal legislation that created the Comprehensive School Reform Demonstration Program.⁸
3. They are used in many schools and districts.
4. They have obtained national visibility in the education and popular press.
5. There is some research evidence about their effects on students and/or their implementation in schools.

Seventeen approaches are reviewed because they are mentioned in the Comprehensive School Reform Demonstration Program legislation. The other seven approaches satisfy at least three of the other criteria.⁹

HOW THE APPROACHES WERE REVIEWED AND RATED

To prepare the table on page 4 and the profiles of each approach, AIR: (a) interviewed the developers of each approach (see Appendix G for details); (b) gathered and reviewed all available studies about the approaches (see Appendices A and D); and (c) collected additional information from schools that are using the approaches (see Appendix G). All profiles and tables were reviewed by the developers for accuracy, revised, and reviewed again. In addition, developers were offered the option of submitting written comments (see Appendix H).

For each approach, AIR reviewed: (1) evidence of positive effects on student achievement; (2) support that the developer provides schools as they implement the approaches; and (3) first-year costs associated with implementation.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

AIR made an extensive effort to gather and review all relevant material for each approach. AIR reviewed three types of materials (loosely called studies) to determine whether they were methodologically sound and to assess the positive student achievement findings:

- **Individual studies that reported a broad range of achievement outcomes.** For example, different studies reported students'

performance on one or more types of measures (e.g., standardized tests, mandated statewide assessments, assessments embedded in a specific curriculum, and teacher-designed assessments). Some studies also reported achievement outcomes in terms of students' course-taking patterns, daily attendance rates, graduation rates, referrals to special education, within-grade retention rates, or letter grades.

- **Studies that are available to the public.** In all cases, the studies reviewed were available to school staff or others who might want to read them. In many cases, studies were unpublished but were available from the developers.
- **Changes the developers reported in test scores.** AIR reviewed raw test score data provided by the developers if they were accompanied by contextual information that could be used to interpret them (e.g., number and grades of students tested, changes in student population over the testing period, and description of implementation). Many developers collect test data that suggest their approach raises test scores, but few provide adequate information to relate changes in test scores to the approach.

AIR reviewed more than 130 studies of student achievement. Each approach was rated on its number of sound studies and the positive student achievement findings in those studies.¹⁰

The review of the research occurred in two stages. First, AIR critically reviewed studies for methodological rigor, taking into consideration important distinctions among studies such as scope (e.g., number of students, period over which data were collected), quality and objectivity of the measurement instruments, and affiliation of the researcher. Second, AIR assigned to each approach an overall rating for positive evidence of effects on student achievement, based on the number of studies that met the criteria for methodological rigor and the effects reported in those studies.¹¹

In the first stage, AIR critically reviewed all studies that reported student achievement effects for one of the 24 schoolwide reform approaches, using an instrument developed for this type of research review and tailored to this project, the Evaluation of Research on Educational Approaches (EREA). Each study was reviewed individually, using the EREA, by one of seven trained researchers.

Each AIR researcher was assigned several reform approaches and reviewed all of the studies for these approaches. In addition, each researcher reviewed a sample of studies reviewed by fellow researchers to maintain inter-rater reliability. Two or more researchers reviewed one out of every five studies. The project director compared ratings for these overlapping studies and, in cases of discrepancies, retrained the researchers and clarified the issues for all project staff.

SUPPORT DEVELOPER PROVIDES SCHOOLS

To rate the level of support developers provide schools as they implement the approaches, AIR considered the following factors when reviewing materials developers provided and information gathered in telephone interviews with each developer:

- **Access to appropriate types of support.** Most developers offer a variety of types of support (e.g., visits from the developer, newsletters, telephone consultation with the developer, and access to the developer's Web site) to assist schools as they implement the approaches. Some developers provide proactive, on-site assistance to help schools work through issues with implementation before problems undermine the implementation process.
- **Frequency and duration of support.** Frequency of contact and duration of support indicate the level of interaction schools might expect of the developers. Developers may work closely with each school, or may pro-

vide an approach and encourage the schools to work independently towards reform.

- **Tools to help schools evaluate their implementation progress.** Some developers provide benchmarks against which schools can monitor their implementation of the approach. Others help schools develop their own implementation plan, including schedules for expected progress.

However, all approaches do not require the same amount of support from developers, and some are more demanding to implement than others. Therefore, the guide provides information on: (1) the critical steps developers require or encourage schools to take to fully implement the approaches; (2) the scope of actual implementation—that is, how long the approach has been in schools and how many schools are implementing the approach; and (3) findings from research on implementation (e.g., components of the approach that are especially easy or difficult to implement). This information can be found in the table on page 4, in the profiles of each approach, and in Appendix E.

ESTIMATING THE FIRST-YEAR COSTS OF ADOPTING THE APPROACHES

The cost estimates in the guide are for the first year a school implements an approach. In most cases, the first year is the most expensive. AIR estimated the total amount schools can expect to pay in addition to their normal operating expenses. In some cases, this cost can be reduced if schools are able to reallocate current personnel and/or fiscal resources to support their adoption of a schoolwide approach.

To arrive at cost estimates for the first year, AIR asked each developer to provide information on the costs schools generally incur. In addition, a random sample of schools that had adopted each approach were asked to share estimates of the costs that were actually incurred. AIR confirmed or adjusted the developers' figures based on the

schools' cost figures and information from studies that included cost information.

Unless otherwise noted, costs are based on a school of 500 students and 25 teachers or other certified staff, and assume that the approach is implemented across the entire school. The cost estimates also include all components the developers require, or strongly recommend, that schools adopt during their first year of implementation. For example, if the developer requires three days of professional development for each teacher, the estimates include the cost of the training sessions and the cost of release time for 25 teachers for three days each.

Costs are based on standard rates. For example, an average rate for a full-time facilitator or for a certified teacher is \$50,000 per year. One day of release time for a teacher is based on a salary of \$50,000/180 days, or \$278 (Barnett 1996; King 1994; Odden undated).

Two cost estimates appear in the summary table on page 4 and in the profiles of each approach. The first, a high estimate, includes all the approach-related costs schools can expect to incur (i.e., training, technical assistance, materials, and additional staff). Most importantly, it estimates the cost of any additional personnel that schools may need to hire to meet developers' requirements. The second cost estimate, a lower dollar figure, acknowledges that some schools can reassign current staff members rather than hire additional staff.

Schools could spend less than the low estimate if, for example, release time for training is covered by regular district allocations, or the approach is implemented in selected grades rather than all grades in the first year. Schools could spend more than the high estimate if, for example, the school opts for additional training not required by the developer.

BEFORE SELECTING A SCHOOLWIDE REFORM APPROACH

Local policymakers, educators, parents, and community members make their decisions about schoolwide reform based on many different factors. Such decisions can be informed by seven steps, outlined below.

Step 1: Identify the school's needs. Many schools engage in self-studies or audits as part of the process of investigating available schoolwide reforms. These procedures sharpen the schools' understanding of what is working well and what needs to be improved. They also generate goals that schools can match against the goals (and documented effects) of various schoolwide approaches. Self-studies and audits also establish a starting point or baseline for measuring progress once an approach is adopted.

Step 2: Investigate alternative approaches. In order to identify approaches that can meet their needs, schools should investigate a number of approaches to reform.¹² First, approaches vary considerably in their philosophies, components, and ways of working with schools. Second, by casting the investigative net widely, schools increase their chances of finding an approach that matches their goals. More than an academic exercise, procedures should be used to enable schools to pinpoint exactly what kind of effects on students they can expect if they implement a program as the developer intends (e.g., improved reading, math, or science achievement; better attendance; higher graduation rates; or fewer students receiving special education services). To make an informed selection from among the alternatives, staff members need a good understanding of all the approaches under consideration. This guide is one resource for developing that understanding. Other resources are noted in a special section in the references.

Step 3: Ask the developers questions. The 24 approaches are changing constantly as new components are added or existing components are

revised. Schools should contact the developers for updates. In addition, most of the approaches are expanding to more and more schools as interest in schoolwide reform grows. Since developers may have too many interested schools to support every one, schools should contact developers early in the process of exploring approaches to find out what kind of support will be available and when that support can be provided.

Step 4: Call a random sample of schools that are using the approaches. It is wise to ask the developers for a full list of schools that are using their approaches (and schools that have discontinued using the approaches), including addresses, phone numbers, and the name of the appropriate person to contact. Some developers are willing to provide such lists.

Phone calls to a random sample of schools can reveal: why the schools chose the approach; how they addressed any implementation problems they have experienced; what it cost them to implement the approach; and, most importantly, what kind of results they have seen, especially in terms of positive effects on student achievement. Schools already implementing the approach also may have evaluated the training and support the developer provided, and they can share this information. By contacting as many schools as time permits, especially if the developers provide limited information on the approach's effects on students, the investigating school can better understand the approach.

Step 5: Visit schools whenever possible. Steps 1 through 4 should narrow the search for an approach that best meets a school's needs, which makes it possible to arrange school visits for the top few choices. Most developers recommend that schools take this step. School visits provide an opportunity to see the approach in action: to visit classrooms; to meet with school staff; and to talk to students, parents, and community members. They also give would-be adopters a sense of how an approach operates in different schools, and if visitors' resources permit, in different school dis-

tricts and communities. While approaches that offer highly structured curricula and instructional strategies may look quite similar across settings, those that advance a philosophy or general approach to school reform may operate differently in different settings.

Step 6: Match the developer's requirements with available resources. The cost information in this guide is a good starting point for comparing resources and requirements. It captures the out-of-pocket costs that developers typically charge for training, consultation, and materials, and it flags less-obvious costs that schools need to consider (e.g., hiring new staff, purchasing additional books for libraries, and asking faculty to develop curriculum materials). But the actual costs of adopting and sustaining an approach vary widely across schools and districts.

For example, the costs of training and technical support from the developer often vary, depending on whether expenses can be shared among local schools adopting the approach. Economies of scale apply when clusters of schools implement the approach at the same time. Some developers allow schools to tailor their implementation by phasing in components (and their associated costs) over time; others do not. Some approaches ask instructional staff to enroll in college courses to update their subject-matter knowledge; others ask them to meet before and after school, or to work extended hours. Such requirements have cost implications.

To determine the feasibility of adopting an approach, compare all the requirements developers ask schools and districts to meet with available resources.

Step 7: Put the decision to a vote. Because staff support is critical to success, the decision to adopt a schoolwide reform approach should involve the entire staff and be supported by a large majority. Many developers recommend that the staff vote on adopting an approach. In fact, many require that 80 percent or more of the staff vote

for adoption, by secret ballot, before they will agree to work with a school.

The information in this guide is central to the second step, investigating alternative approaches. The guide will assist readers as they: examine an approach's track record for improving student achievement; learn about the support developers provide schools and districts before and after adoption; and develop an understanding of the costs involved in adopting an approach.

USING THIS GUIDE TO INVESTIGATIVE SCHOOLWIDE REFORM

This guide includes much of the basic information readers need to investigate the 24 approaches reviewed: (a) the table on page 4; (b) the profiles of each approach; and (c) the more detailed information in the appendices about studies of the programs' effects on students, implementation requirements, and costs.

To support readers' further investigation, the guide references two additional sources of information: (a) the developer of each approach; and (b) additional readings on each approach. The developer's name and address, including its Web site address, is listed at the end of each profile. Papers, articles, and books written about the approaches are listed in the references.

Busy readers are cautioned against relying exclusively on the table on page 4. The table provides limited information that is not sufficient to understand the ratings fully. Readers need to read each of the profiles of the approaches to understand the ratings.

Here are some suggested ways to use this guide:

- Consult the table on page 4 to compare the ratings assigned to the approaches.
- Read the profile of each approach to understand the ratings assigned and the costs of adopting the approach. In addition, the pro-

files provide an overview of each approach and describe its major components.

- See Appendix B for ratings of the studies AIR reviewed.
- Review Appendix C for details about studies of the approaches' effects on students.
- Review Appendix E for information from studies that document schools' experiences implementing the approaches.
- See Appendix F for details about the costs of adopting the approaches.
- See the brief discussion on page 7 to find out how the approaches were selected for this guide.
- Turn to Appendices A and D for details about how the approaches were reviewed and rated.

- Consult the guide's references to read more about specific approaches.
- See the special section in the references to find out about other guides that describe the reform approaches.
- Follow the steps outlined in *Before Selecting a Schoolwide Reform Approach* to make an informed decision.

CONCLUSION

This guide is a tool to help schools investigate schoolwide reform approaches. Information is presented in varying degrees of detail, from the table on page 4 to the detailed descriptions of the research in the appendices. We hope that readers will find it useful.

¹ According to the Comprehensive School Reform Demonstration Program ("Obey-Porter"), "comprehensive" approaches integrate nine components: effective research-based methods and strategies; comprehensive design with aligned components; professional development; measurable goals and benchmarks; support within the school; parental and community involvement; external technical support and assistance; evaluation strategies; and coordination of resources.

² In 1991, corporate America launched an ambitious research and development program, the New American Schools Development Corporation (now New American Schools), to develop several new approaches to school reform. NASDC design teams began piloting these approaches in 1992.

³ The Comprehensive School Reform Demonstration Program provides funds to states for grants to schools of at least \$50,000 per year for three years for whole-school reform.

⁴ The project sponsors mailed a Request for Qualifications to 15 nonprofit research and development organizations on May 8, 1998. Statements of qualifications were submitted on May 22. AIR was awarded the contract, which began on June 1. AIR is an independent, nonprofit research and development organization based in Washington, D.C.

⁵ It is important to note that reform approaches that are operating in a large number of schools or have been operating for a long period of time are better situated to provide a strong research base.

⁶ Due to the limited data in many subject areas, ratings are based on evidence of positive effects on student achievement across subject areas, rather than within specific subjects.

⁷ In some cases, sources other than the developer, such as regional assistance centers or publishers, also provide support. The ratings do not reflect support from these sources.

⁸ The programs mentioned in the Comprehensive School Reform Demonstration Program legislation are: Accelerated Schools, America's Choice, ATLAS Communities, Audrey Cohen College, Coalition of Essential Schools, Community for Learning, Co-NECT, Direct Instruction, Expeditionary Learning Outward Bound, High Schools That Work, Modern Red Schoolhouse, Paideia, Roots and Wings, School Development Program, Success for All, Talent Development High School with Career Academies, and Urban Learning Centers.

⁹ Preliminary analysis was also conducted on the Edison Project and Montessori. After reviewing the results, however, both developers presented AIR with convincing arguments that additional data needed to be reviewed to arrive at an accurate rating of student achievement effects. The scope of this additional data gathering and analysis could not be accommodated within project timelines. Thus, neither approach is included in this *Guide*. We hope to include both in the next edition.

¹⁰ The rating criteria draw on multiple sources, including Stringfield (1998), National Center to Improve the Tools of Education (1998), and U.S. Department of Education (1998). The project's advisors and experts in educational evaluation reviewed draft versions of the criteria used to rate the evidence for each approach. The final criteria reflect their comments and suggestions.

¹¹ The reported analyses treat all studies equally. In fact, studies differ on a number of dimensions, including the number of schools studied, the number of grade levels tested, the number of outcome measures used, and the number of students included. Given the available data, it was not possible to take all of these sources of variation into account in the analysis. But, to examine the sensitivity of the results to alternative assumptions about the studies, a supplementary analysis was conducted in which studies were weighted based on the number of schools included. The weighting made very little difference in the overall results.

¹² Some schools may choose to develop their own schoolwide reform rather than use a preexisting model. This guide, however, focuses on externally developed approaches to schoolwide reform.

ACCELERATED SCHOOLS

Evidence of positive effects on student achievement	■
Year introduced in schools	1986
Number of schools	1,000+
Support developer provides schools	■
First-year costs	
with new staff	\$27,000
with current staff reassigned	\$14,000

● = Strong ◐ = Promising ■ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The Accelerated Schools approach was developed in the belief that at-risk students should have the same rich curriculum and instruction typically reserved for the "gifted and talented." The approach's name signifies the developer's conviction that at-risk students must learn at an accelerated pace to catch up with more advantaged students. Thus, the primary goal is for at-risk students to perform at grade level by the end of sixth grade.

Under the approach, members of the school community are encouraged to work together to transform classrooms into environments where students think creatively, explore their interests, and achieve at high levels. Central to this approach is the work of John Dewey, an education philoso-

pher who believed that an "effective education" in a democratic country implies faith in the potential of children and adults to understand and shape the world.

The approach is grounded in three principles. The first is *unity of purpose*, which means that parents, teachers, students, and administrators strive toward a common set of goals. The second is *school-site decisions and responsibility*, in which all members of the school community are encouraged to share responsibility for making and implementing decisions, and for holding themselves accountable for the results. The third principle is *building on strengths*, which means that schools should draw on the expertise and experience of everyone involved in the school community.

The approach was developed by Henry Levin, Professor of Higher Education at the Stanford University School of Education. Accelerated Schools was first implemented in two San Francisco Bay Area elementary schools in 1986. Today, there are more than 1,000 Accelerated Schools in 40 states.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of Research Base. Research on the effectiveness of Accelerated Schools is marginal. Five studies examined the effects of Accelerated Schools on student achievement. Four followed a single school for two years; the fifth compared eight Accelerated Schools with schools that had implemented other reform models. Two of the five studies were considered sufficiently rigorous to report the findings here: one was conducted by a principal and a local professor; the other was conducted by independent researchers. However, the Manpower Demonstration Research Corporation is currently conducting a large independent study of Accelerated Schools that focuses on student achievement and other outcomes. This study should be released in 1999. In addition, the developer collects and makes available to the public data on test score gains for Accelerated Schools.

There is a strong base of research on implementation. Eight studies tracked the implementation progress of Accelerated Schools, and four studies in single schools (noted above) confirm some of the patterns observed in these studies.

Effects on Students. Of the two rigorous studies that report student effects, both suggest that Accelerated Schools improves student achievement, at least on certain measures. In one study of a school where the approach was well implemented, student test scores in reading, writing, language, and mathematics improved over two years, in most cases surpassing the scores of students in a matched control school. Student achievement had been below grade level in reading and lan-

guage (on the Metropolitan Achievement Test) before the school adopted the Accelerated Schools approach; after two years of using the approach, students in most grades were achieving above grade level.

Another study compared Accelerated Schools to schools using Success for All and locally developed reform programs, grouping schools to control for socioeconomic status and controlling for students' prior achievement. Among schools with moderate poverty (43 to 54 percent of students receiving free or reduced-price lunch), the Accelerated Schools outperformed the others on Word Attack, but did not perform as well on Writing. In a group of high-poverty schools (62 to 71 percent free or reduced-price lunch), Accelerated Schools outscored Success for All on Writing, but did not do as well on Word Attack.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Accelerated Schools encourages broad participation in decision making by administrators, teachers, and parents. Collaborative inquiry guides school organization, which serves as a model for governance.

Schools are required to create two faculty positions: a part-time (25 percent) coach, and a part-time internal facilitator. The coach, typically someone affiliated with the district office, the state department of education, or a university, provides some of the training and technical assistance required to implement the approach. The facilitator, typically a member of the school's staff, assists the coach in this process.

Curriculum and Instruction. The developer expects each school to make its own decisions about curriculum, instructional strategies, and resource allocation. However, it expects the Accelerated Schools philosophy to guide those choices. For example, Accelerated Schools literature emphasizes educational philosopher John Dewey's belief that children learn best through *collaborative*

inquiry, which involves working with others to solve shared problems. Schools are expected to implement a curriculum that provides all students with opportunities to use hands-on approaches to solve problems while working in pairs or in small groups.

In addition, the developer encourages schools to make curricular and pedagogical choices that emphasize student strengths, language development across subjects, and problem-solving and higher-order analytic skills. The developer also expects decisions to be guided by common objectives for all students, and hopes that schools will provide opportunities for students to understand what they are learning by grounding that learning within the communities and cultures of the students.

Supplies and Materials. The developer does not require or provide schools with particular materials, but recommends that materials be consistent with the curricular approach described above.

Scheduling and Grouping. Schools are encouraged (but not required) to group children heterogeneously, to use cross-age groups, and to use students as peer tutors.

Monitoring of Student Progress and Performance. In addition to the kind of student learning that standardized tests measure, the developer recommends that schools measure student creativity and resourcefulness, critical-thinking skills, and problem-solving abilities. The developer also suggests the use of demonstration projects and portfolios of student work.

Family and Community Involvement. The developer believes that involvement of parents is central to the success of Accelerated Schools. Parents are expected to read and agree to a statement that clarifies the school's goals and outlines the obligations of parents, students, and the school staff. Schools encourage parents to become involved with the decision-making process by joining task forces or committees.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. During pre-service training, a core team, consisting of the principal, the coach, and the internal facilitator, receives training from either the developer's headquarters at Stanford University or one of 13 satellite centers located across the country. Training involves an intensive five-day summer workshop, two subsequent two-day sessions on "inquiry" (active questioning) and "powerful learning" (learning that arises from an alignment of school organization, climate, curriculum, and instruction), and ongoing mentoring by a center staff member. The coach provides two days of training for the entire school just before the school year begins.

During the first school year, the coach provides six days of professional development designed to help the school implement the components of Accelerated Schools. Coaches also provide schools with ongoing support, by visiting each school at least once a week and facilitating meetings among school faculty.

In the second and third years, schools continue to receive regular on-site assistance from the coach, who targets assistance toward those components of the Accelerated Schools model that the school finds most challenging. Schools may continue to receive assistance related to implementing the components of the programs, or add new topics (e.g., aligning the school curriculum with state and district policies) as needed.

Schools have the option of entering into a Basic Partnership Agreement with the developer. Schools that exercise this option also receive one visit per year from an Accelerated Schools Project staff member and attend a year-end retreat to review progress and to plan. The Accelerated Schools Project also conducts national and regional conferences for staff from participating schools. A newsletter, published three times a year, focuses on implementation topics, such as the role of

coaching and successful experiences of Accelerated Schools.

Schools may extend their agreement with the developer by contracting with one of 13 regional satellite centers for additional site visits and other services as needed. Information about some of the training and professional development activities offered by satellite centers is available through the Accelerated Schools Web site.

Implementation Requirements and Schools' Experiences. Accelerated Schools staff recommend that interested schools complete a two-phase exploration process (lasting from one to three months) before implementing the approach. In the first phase, the developer recommends that the entire staff read about the approach, talk to experienced principals and coaches, and visit schools that have adopted the approach. In the second phase, the developer recommends that school staff have conversations with the national center or one of the satellite centers.

Schools wishing to adopt the Accelerated Schools approach must take a formal vote: at least 90 percent of the full-time staff and community representatives must approve the decision to become an Accelerated School. In addition, the developer recommends involving students in age-appropriate discussions throughout the process. Finally, the developer advises schools to recruit for the position of coach, either from the local school district, the state department of education, or a local university.

Transformation into an Accelerated School is a two-part process, beginning with "taking stock," in which the school community attempts to achieve a shared vision for the school. The school then identifies priorities and analyzes problems through the "inquiry process," a system to help identify problems, find and implement solutions, and assess results. The developer estimates that full implementation will take five years.

Central to implementation is continual self-evaluation. Toward this end, the developer has

created an assessment tool kit with five tools: (1) a school questionnaire; (2) a coach's journal; (3) a school data portfolio; (4) guidelines for collecting school documents; and (5) benchmarks to compare each school with a "model" Accelerated School.

Implementation studies indicate that adopting the approach is a slow process, one that can be frustrating for school staff. Some schools found it easier to implement the more concrete aspects of the approach, such as changing specific instructional strategies. In addition, some studies determined that successful adoption of the approach was influenced by the administration; and that administrative changes in the school could hinder implementation.

Positive implementation findings include an increased sense of collaboration among teachers, more parent and community involvement, and the use of more innovative teaching methods in Accelerated Schools. Some studies suggest that these characteristics of Accelerated Schools make them especially appropriate for special education students.

COSTS

The first-year cost of implementing Accelerated Schools is \$27,000, but schools can bring this cost down to \$14,000 by reassigning current staff to fill key positions, such as internal facilitator.

The developer charges \$13,000 to \$15,000 per year for a Basic Partnership Agreement, a minimum three-year commitment. The first year of the Basic Partnership Agreement includes: training for the coach, principal, and internal facilitator (excluding travel); training materials and three copies of the *Accelerated Schools Resource Guide*; one visit by a project staff member; technical assistance by phone and e-mail; a year-end retreat; a subscription to the Accelerated Schools newsletter; and access to an electronic network of Accelerated Schools. In the second and third years, the Agreement includes targeted professional de-

velopment, ongoing technical assistance, one visit by an Accelerated Schools staff member, the year-end retreat, and a subscription to the newsletter.

Schools will accrue costs in addition to that of the Basic Partnership Agreement, including 25 percent of the salary and benefits of the coach (estimated at between \$12,000 and \$20,000 if the coach is external to the school). According to the developer, there is no additional expense for faculty release time for professional development; the developer works with the school to fit professional development into existing district-allocated training days.

An independent study comparing costs of school reform approaches estimated that the Accelerated Schools approach would cost \$17,000 per year for a school of 500 students for minimal implementation (coach commitment of 20 percent time, and training time reallocated from other activities). The approach could cost as much as \$80,000 for a school of 500 students if the coach is assigned to the school 50 percent time and the

school pays for release time or stipends for teachers. These estimates include the coach's salary and benefits (\$12,000 to \$30,000); the coach's training (\$5,000); and school staff training (\$0 to \$45,000). According to the developer, however, no Accelerated School has ever incurred these hypothetical expenses.

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AMERICA'S CHOICE

Evidence of positive effects on student achievement	?
Year introduced in schools	Program named "America's Choice" in 1998
Number of schools	300
Support developer provides schools	●
First-year costs	
with new staff	\$190,000
with current staff reassigned	\$90,000
● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research	

OVERVIEW

The primary goal of America's Choice is to raise academic achievement by holding students to high standards in the core subjects of English, language arts, mathematics, and science. This includes proficiency in reading by the third grade, readiness for algebra by the eighth grade, the ability to write clearly and concisely by the tenth grade, and knowledge of biology, chemistry, and physics (for a Certificate of Initial Mastery) by graduation from high school.

The America's Choice School Design centers on five areas: standards and assessments, learning environments, community services and support, high-performance management, and public and parent engagement.

America's Choice is one of several approaches sponsored by New American Schools, a national initiative to develop replicable schoolwide reform programs.

America's Choice evolved over the past decade, growing out of work by the National Center on Education and the Economy (NCEE) to support and develop standards and assessments. According to the developer, the approach is based on reviews of the research in many areas, including learning theory, standards and assessments, curriculum, and modern management. Beginning in 1992, together with another center, 17 states, and six districts, NCEE developed internationally benchmarked student performance standards and matching reference exams. Subsequently,

NCEE began to develop curricula to match performance standards and exams.

In 1998, NCEE codified its research and experience into the current America's Choice design. Since the approach has been the product of such gradual evolution over the years, very few schools, if any, incorporate the full range of America's Choice. Thus, it is difficult to determine the number of schools that could be considered "America's Choice" schools. According to the developers, however, America's Choice serves all grade levels in urban, suburban, and rural districts, and there were an estimated 300 schools in 14 states using the approach as of July 1998.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. As a schoolwide approach, America's Choice is relatively new, and rigorous research on student achievement outcomes is not yet available. No publicly available research studies use rigorous methodology to critically evaluate outcomes of the approach.

However, the developer has begun to collect student test data from several sites. These data are publicly available from the developer. In addition, the Consortium for Policy Research in Education currently is under contract to conduct research on the effectiveness of this approach.

Some research on implementation does exist. Four studies, conducted by contracted independent researchers, track the implementation progress of the America's Choice schools sponsored by the New American Schools Project, a national school reform effort.

Effects on Students. At the time of this report, there were no studies on which to base conclusions about the effectiveness of America's Choice. However, the reader is encouraged to obtain and evaluate the existing test data and the research base on which America's Choice is founded.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. The approach includes a component that targets the organization and management of school districts. It holds that the role of the central administration is to provide schools with clear goals, collect accurate data about progress toward those goals, share decision-making power with those most closely connected to the work being done in schools (e.g., teachers, classroom aides, principals, and parents), and hold schools and school staffs accountable and reward them as appropriate.

America's Choice also emphasizes the roles of several school leaders: the principal, design coach, literacy coordinator (K-8), school-to-career coach (high school), community outreach coordinator, a site council, and the leadership and management team. The developer expects the principal to be the instructional leader and human and financial resources leader, as well as to ensure that the staff has the tools needed to improve student achievement. The design coach's role is to coordinate the implementation of America's Choice at the school in conjunction with the principal. The literacy coordinator's role is to work individually with K-8 teachers to help them use instructional strategies recommended by the developers. The role of the school-to-career coach in high schools is to help teachers use learning standards in the curriculum, connect the high school to business and industry and postsecondary institutions, and coordinate implementation. The community outreach coordinator serves as the school's liaison to the community and focuses on helping students and families receive social support services as needed. A site council monitors implementation of the approach. The leadership and management team, consisting of the principal, design coach, literacy coordinator, community outreach coordinator, school-to-career coach, and other school staff, implements the approach.

The developer requires that teachers above second grade specialize in two or three subjects (e.g.,

English and social studies, or math and science). The developer reasons that specializing in subjects will help teachers guide students toward a deeper understanding of those subjects.

Each America's Choice high school is divided into houses of fewer than 400 students. Each house has a separate team of teachers, a head teacher, and relative autonomy.

Curriculum and Instruction. With the emphasis on standards in America's Choice schools, the curriculum is critical. The approach lays out a detailed program of instruction. According to the developer, the prekindergarten and kindergarten curricula emphasize early literacy education and phonemic awareness. The curricula for kindergarten through eighth grade emphasize writing and reading, using both phonics and whole language approaches to reading instruction. Additional attention is given to mathematics, art, music, science, physical education, and social studies.

The high school curriculum includes the standard set of academic core subjects (English, mathematics, science, social studies, etc.). Students take America's Choice eighth-grade reference examinations in English language arts and mathematics to help teachers plan instruction that meets students' needs.

America's Choice also includes a program entitled "on-ramps" at both the elementary and secondary levels, to provide tutoring for students who lag behind in mathematics and reading.

Supplies and Materials. NCEE publishes classroom materials that are recommended, but not required. In addition, the developer provides workshops to help school staff find materials that meet the new standards. NCEE also offers help to teachers interested in developing their own materials. Through Harcourt Brace, the developer offers America's Choice schools access to performance standards, reference examinations, practice tests, and sample items and model responses that were used on the examinations.

Scheduling and Grouping. The developer recommends small groups, classes, and schools. In the primary grades, 20 students per class is recommended. In the secondary grades, the approach recommends 400 students per "house." Planning time must be set aside for the teacher team of each house, as well as for teachers of the same content area at each grade level, to discuss instructional practices. The same standards and materials apply to all classes. The developer does not suggest any specific strategy for grouping students within classes.

America's Choice also uses "class teachers." Through eighth grade, these are teachers who are assigned to students for at least three school years. Thus, a student has the same teacher and classmates for three consecutive years. In high schools, the class teacher stays with students and advises them until they meet the Certificate of Initial Mastery standard. Class teachers teach and advise students, and are the main contact for parents.

For primary grades, the developer requires the first two and one-half hours of each day to be set aside for literacy. Of this block, one-half hour is for instruction in phonics skills, spelling, vocabulary, and grammar; one hour for writing; and another hour for reading. The next hour is dedicated to mathematics. Twice a week, one hour of art and music is scheduled. Two hours per week each are provided for science, social science, and physical education. For upper elementary grades, the approach designates two hours daily for reading, writing, literature, and the humanities, one hour for mathematics, and "substantial time weekly" for science, art, music, social studies, and physical education. For grades six through eight, one four-hour block per day is mandated for English language arts, mathematics, science, and social science.

Monitoring of Student Progress and Performance. Since the goal of the approach is to raise achievement by holding students to high standards, teachers are required to monitor student progress in meeting the standards regularly,

using weekly oral and written assessments that are embedded in the curriculum. The developer expects students to earn a Certificate of Initial Mastery by their junior year, demonstrating proficiency against the standards for English language arts, mathematics, biology, physics, and chemistry.

America's Choice schools use the America's Choice Reference Examinations to measure student growth, and the America's Choice Portfolio System to make sure students' work covers the full set of standards over time. The Reference Examinations, published by Harcourt Brace, are based on the America's Choice Performance Standards in English language arts, and mathematics for fourth, eighth, and tenth grades. According to the developer, a Reference Examination in science for grades four, eight, and ten is under development and will be available in 1999.

Family and Community Involvement. The developer requires schools to have a community outreach coordinator to support students and their families (e.g., helping families access social services). A school-to-career coordinator is required in high schools to help develop a link between students and employers and postsecondary institutions in the area. According to the developer, both of these positions can be, and usually are, filled by existing personnel.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. America's Choice encourages continual professional development, providing workshops covering performance standards, examinations referenced to those standards, curriculum materials, and planning. Professional development provided by the National Center on Education and the Economy generally begins with workshops, followed by time for staff to practice, and opportunities for staff to reconvene for discussion and further training.

The developer provides intensive training for school leaders:

- Literacy coordinators are expected to attend four one-week institutes on literacy instruction every year for the first two years of implementation. These institutes involve work in schools, where the trainers model and the literacy coordinators try out new techniques for instruction.
- There are three parts to the training for design coaches. A first workshop is on learning the standards, scoring student work against the standards, and understanding the exams. A second workshop is on building a planning process based on student assessment. A third workshop is on the curriculum: choosing texts that are relevant to the standards and, if necessary, developing curriculum materials.
- Community outreach coordinators are expected to participate in two workshops: one is a full-day session with follow-up on parent involvement in the school; the other, provided by the Center for Social Policy, is a part-day workshop on integrated social services.
- Principals participate in a principals' network with peers from other America's Choice schools.

Professional development for teachers is provided by these school leaders (e.g., design coach, literacy coordinator, cluster leaders) or, for special situations, trainers from the developer staff. For example, the literacy coordinator works individually with teachers to help them develop instructional strategies. After participating in the institutes on literacy, the literacy coordinator sets up a model classroom with one of the best teachers in the school. When that teacher is proficient in the recommended strategies, the literacy coordinator works with a second teacher. This process continues until the entire school is trained.

Up to seven days of technical assistance at the school are offered. In addition, the National Cen-

ter on Education and the Economy sponsors an annual national conference; registration for five teachers each year is included in the fees paid to the developer.

Implementation Requirements and Schools' Experiences. According to the developer, before implementation begins, a "substantial majority" of the faculty must commit to the America's Choice program and agree to phase it in over three years.

The developer recommends a three-year plan for implementation. The first year should be spent orienting school staff to the approach and standards; planning; preparing for and conducting the Reference Examinations; working on the school design; and conducting professional development. For elementary schools, the literacy coordinator participates in training, and for high schools, the school-to-career coordinator begins training.

In the second year, the school continues planning, working on the school design, participating in professional development, and testing students with the Reference Examinations; the school also begins using the results of the Reference Examinations and using core assignments in the curriculum. The literacy coordinator in elementary schools continues training and begins coaching teachers; in high schools, the school-to-work coordinator continues training and begins implementing that component.

In the third year, the school continues everything begun in the second year and begins designing extended student work assignments. In elementary schools, the literacy coordinator continues coaching teachers and a math institute is offered. The school-to-career coordinator continues training and implementing the approach in high schools.

Four studies on implementation show varied results. After two years, America's Choice schools have low levels of implementation, but have made some progress. Research found that America's

Choice schools had succeeded in setting up school governance committees after two years, a component that tends to be particularly problematic for other reforms. America's Choice schools had also made progress in establishing standards and assessments, involving the community, providing professional development, working with district and state administrators, and reorganizing the schools. In some cases, America's Choice was successfully combined with other comprehensive reform approaches, (i.e., Different Ways of Knowing). Less progress was made on changing instruction and curriculum, reorganizing students' class assignments, and providing access to integrated social services.

The research also suggests that the approach's comparatively low levels of implementation are due to the relatively large number of schools involved in simultaneous scale-up and the complexity of the design. A serious problem was that, due to the size and complexity of the model, implementation of some elements had been delayed by the failure to implement others. For example, many teachers delayed making changes to their curricula and instruction until they knew more about the standards and assessments.

COSTS

The first-year cost of adopting America's Choice is \$190,000. This covers professional development, including estimated staff release time; materials; and an estimated two staff positions. However, schools can lower this to \$90,000 if they reassign current staff to fill various coach and coordinator positions.

For an elementary or K-8 school of 500 students, the developer charges \$65,000 a year for three years. This includes up to seven days of technical assistance at the school each year, copies of America's Choice Performance Standards for each teacher, four weeks of training for a literacy coordinator, training of a design coach, workshop materials for faculty professional development, participation in periodic meetings of the princi-

pals' network, and registration for five teachers at the annual America's Choice National Conference.

The developer estimates that participating elementary schools will bear the following costs: a design coach, literacy coordinator, and community outreach coordinator (expected to be covered by Title 1 funds); travel for training of the literacy coordinator and design coach; tutoring; release time for faculty professional development; travel and related costs for attendance at the America's Choice National Conference; administering the Reference Exams (about \$650 per class); release time for teacher planning integral to the design; and supplies for the literacy coordinator (about \$1,000 per coordinator).

Other than the developer's fee, costs for high schools are anticipated to be comparable to costs for elementary schools. The developer charges

\$95,000 per year for high schools of up to 1,200 students. The same number of additional staff are required, although high schools use a school-to-career coach rather than a literacy coordinator.

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ATLAS COMMUNITIES

Evidence of positive effects on student achievement	?
Year introduced in schools	1992
Number of schools	63
Support developer provides schools	●
First-year costs	
with new staff	\$98,000
with current staff reassigned	\$90,000

● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The ATLAS Communities approach (Authentic Teaching, Learning, and Assessment for All Students) is based on the belief that all students can and must reach their full potential. A key feature of ATLAS is the Pre-K to 12 "pathway." The "pathway" refers to feeder patterns of elementary, middle, and high schools, which the approach seeks to coordinate to produce a coherent educational program for each student, from the first day of school through graduation.

ATLAS works with pathways toward five goals: (1) to improve learning for all students by focusing on teaching for understanding; (2) to evaluate student work through a variety of standard and authentic assessments; (3) to engage teachers in serious, sustained professional development

through whole-faculty study groups; (4) to involve families and other community members in the education of their children; and (5) to reorganize the internal structures and decision-making processes of schools and districts to support the above goals.

The approach was formed in 1992 as a partnership of four school reform organizations: the Education Development Center in Boston, the Coalition of Essential Schools at Brown University, Project Zero at Harvard University, and the School Development Program at Yale University. The approach is one of several sponsored by New American Schools, a national initiative to develop replicable schoolwide reform programs.

According to the developers, ATLAS builds on a base of research and examined practice drawn

from each of the sponsoring organizations. Specifically, the approach draws on *essential questions* and *student exhibitions* from the Coalition of Essential Schools; *professional development* and *curriculum development* from the Education Development Center; *multiple intelligences*, *authentic assessment*, and *Teaching for Understanding* from Project Zero; and *family involvement*, *school climate*, and *management and decision-making* from the School Development Program. According to the developers, the approach is based on theories of change, and influenced by experiences in early sites.

During its first several years of development, ATLAS worked with three pathways in Norfolk, Virginia, Prince Georges County, Maryland, and Gorham, Maine. Since then, ATLAS has expanded to encompass 63 schools in eight states, and 14 pathways.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. ATLAS is a relatively new approach, and rigorous research on its effects on student achievement is not yet available.

Research on implementation is available. Five independent studies examined ATLAS implementation. Four of them compared the implementation of ATLAS to the implementation of other school reform approaches; the fifth examined two ATLAS districts. As many as 22 schools were examined; some of the studies examined the same schools or pathways.

Effects on Students. At the time of this report, no studies on the effects of ATLAS on student achievement were available publicly. However New American Schools has commissioned a longitudinal study for which the collection of test data is underway. ATLAS pathways also collect and make publicly available test data on student effects.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. ATLAS requires professional

staff to be organized within each school and across the pathway into whole-faculty study groups. According to developers, these study groups become the vehicle for professional development and a catalyst for changes in teaching, learning, and assessment. In addition, ATLAS schools are required to develop a school leadership team composed of the principal, teachers, other school staff, and parents (and sometimes other administrators and students). This team assumes many of the responsibilities traditionally held by the principal, such as planning the annual calendar and schedule, overseeing the budget, organizing professional development, and communicating with the district. The developers suggest that the relationship between the district and school involve co-management.

ATLAS provides each pathway with a site developer, who works with school and district staff, organizes professional development, and helps implement ATLAS. Districts are required to fund a part-time pathway coordinator. The pathway coordinator typically is a teacher or administrator who is relieved of some other duties.

Curriculum and Instruction. The ATLAS approach to curriculum and instruction encompasses the *Teaching for Understanding* framework developed by Harvard's Project Zero. According to the developers, particular features of this framework include: (1) coherent learning goals and curricula from kindergarten through 12th grade; (2) focus at each grade level and subject area on a few important topics, emphasizing depth rather than breadth; (3) inclusion of basic skills taught in the context of solving problems; (4) developmentally appropriate curriculum and instruction; and, (5) respect for individual differences while maintaining rigor for all students.

Instructional strategies include project-based and cooperative learning activities, teacher-facilitated discussions, and occasional direct instruction or lecture to provide particular kinds of information.

According to the developers, the ATLAS approach encourages everyone in the school to as-

sume non-traditional roles. Students, for example, are asked to become questioners, explorers, creators, and problem solvers. Teachers and administrators are encouraged to regard themselves as mentors and coaches, observing students' work and providing feedback, suggestions, encouragement, and guidance for improvement. Families and community members are encouraged to act as resources for, and facilitators of, learning.

Supplies and Materials. The developers do not require or provide specific instructional materials, but, as implementation progresses, they may recommend learning materials consistent with the approach. The developers require administrators and key teachers to use handbooks to guide faculty study groups. These books are provided to 30 percent of the school staff as part of professional development (additional copies can be purchased for \$20 each).

ATLAS recommends that staff members purchase its instructional guides (\$5 to \$20 per book). Available titles include: *Learning from Student Work*, *Asset Mapping*, *The Curriculum Planner*, *Teaching for Understanding* (Harvard Project Zero), *The Whole-Faculty Study Group* (Corwin Press), and *Dimensions of an Exhibition* (Coalition of Essential Schools).

Scheduling and Grouping. According to the developers, because ATLAS is a framework, not a prescriptive program, it does not require specific strategies for scheduling or grouping. However, the developers recommend scheduling that allows teachers to work together in study groups. They also recommend flexible grouping of students and longer blocks of time for instruction at the secondary level.

Monitoring of Student Progress and Performance. According to the developers, ATLAS provides a framework for student assessment, which should be related to standards that have been adopted by the state, district, pathway or school community. The developers recommend a range of assessments, including standardized tests, school- and teacher-made tests, exhibitions of

mastery, portfolios, and community-based projects. Teachers are also encouraged to examine and discuss student work using protocols provided by the developers.

Family and Community Involvement. The developers will not implement ATLAS without significant family and community support. Involvement is encouraged in three areas: teaching and learning; assessment; and management and decision making. According to the developers, ATLAS schools engage parents and the community in ongoing discussions about governance, teaching, learning, and assessment. ATLAS promotes parent involvement in activities such as parent conferences and student exhibitions. ATLAS also encourages parents and the community to become involved in making school and pathway decisions, preferably by joining school leadership teams. Like the staff, parents and community members are expected to review data, plan implementation, assess progress, and evaluate results.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. ATLAS requires 30 percent of staff to participate in an annual three- to four-day leadership institute that covers topics selected by the school. The training is held during the summer or the school year at the school or a nearby professional development center. Trainers are leaders of other ATLAS schools, ATLAS staff, or consultants who are knowledgeable about the institute topics. Principals in the pathway are encouraged to attend an annual three-day national principals' institute; their registration fee is included in the approach's adoption price.

The developers hire staff ("site developers") with teaching or administrative experience to guide the schools through the implementation process by providing professional development, acting as mentors for teachers, and coordinating activities. Site developers provide workshops, follow-up

sessions, and support as requested by the school and pathway leaders.

The cornerstone of professional development in ATLAS schools is the weekly study groups, in which all faculty participate. According to the developers, study groups provide a forum to discuss instructional innovations and to solve problems that may arise during the implementation of new approaches to teaching and learning.

Other technical assistance includes: at least one visit by senior staff for consultation and quality control; an ATLAS evaluation team visit; visits from staff at other ATLAS communities; *ATLAS in Practice*, a quarterly newsletter that provides ideas and sources of materials to ATLAS members; and the ATLAS Web site, which allows school staff to engage in online discussions.

After three years of implementation, the developers offer to tailor technical assistance to the needs of the pathway.

Implementation Requirements and Schools' Experiences. ATLAS requires commitment of staff in the pathway schools to begin implementation. To help schools decide whether or not to participate, the developers offer a four- to six-month pre-implementation process called *Charting the Course* (developed in 1997). According to the developers, some pathways engage in *Charting the Course* the year prior to implementation; others fold *Charting the Course* activities into their first year of implementation.

During pre-implementation, the school is encouraged to examine its past performance to determine whether ATLAS can help address its current and future needs. An exploration team of approximately 15 people—including district administrators, teachers, parents, and community leaders—is expected to attend a two-day retreat, followed by weekly or biweekly meetings throughout the pre-implementation period. The exploration team is expected to assemble a portfolio, comprising student work and surveys of parents, teachers, and students, to determine pri-

orities and a strategy for reform. The team meets with ATLAS staff to decide whether to continue with the approach and plan the full implementation process. Next, ATLAS staff meets with the school faculty to develop implementation goals. These goals should reflect district, pathway, and school goals. According to the developers, these usually include improving student performance on assessments and achieving higher grades.

According to the developers, the ATLAS approach requires substantial changes in school organization and culture, staff attitudes and behavior, and parental and community involvement. The implementation process takes at least three years. Schools that need more time to fully implement the approach may need to seek additional funding support from grants or other sources.

Studies show that implementation differed across components of the approach. Some components, such as establishing and conducting faculty study groups and setting up a school leadership team, were implemented early in the process. Less straightforward changes, such as transferring decision-making responsibility to the school leadership team, generally occurred later or not at all. Some aspects, especially changes in instruction, were well implemented at some schools and unevenly implemented at others.

According to the developers, research on implementation has been used to improve new replications of the approach. The developers also claim that the various components of ATLAS eventually coalesce.

COSTS

The first-year cost of adopting this approach is \$98,000. This cost covers technical assistance and professional development, including teacher release time (e.g., for weekly study groups); materials; and the salary for a pathway coordinator. Schools can lower this cost to \$90,000 per year if pathways assign a current staff member to serve as the part-time pathway coordinator.

The developer's fee for adopting ATLAS depends on the number of participating schools in the district. If three schools join ATLAS, each pays \$50,000 in year one, \$51,700 in year two, and \$53,330 in year three. If five schools join, each pays \$45,000 in year one, \$47,200 in year two, and \$49,000 in year three. If eight or more schools join, each pays \$40,000 in year one, \$42,000 in year two, and \$44,100 in year three. If a district establishes multiple ATLAS pathways, the per-school cost is lower.

The fees cover the site developers; technical assistance visits by ATLAS staff, including one or more visits by senior staff; visits by practitioners from other ATLAS schools; registration for the annual principals' institute; newsletters and training materials; and Web site access. After the three-year implementation process, the cost depends on the level of services required.

In addition to the above costs, districts must identify a part-time to full-time pathway coordinator for each year of implementation.

Many pathways choose to go through a preliminary exploration of ATLAS (*Charting the Course*) before agreeing to move forward with full implementation. There is an additional cost for these services.

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AUDREY COHEN COLLEGE: PURPOSE-CENTERED EDUCATION®

Evidence of positive effects on student achievement	?
Year introduced in schools	1970
Number of schools	16
Support developer provides schools	●
First-year costs	
with new staff	\$161,000
with current staff reassigned	\$86,000

● = Strong ● = Promising ■ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The primary goal of Audrey Cohen College: Purpose-Centered Education is to improve academic achievement for all students by providing an understandable thematic focus to education. A secondary goal is to increase attendance and decrease disciplinary problems, as needed. The idea for Purpose-Centered Education grew from research on educational implications of the changing economy. Specifically, the developer felt that an information-based global society requires students to learn and act in more complex ways.

Purpose-Centered Education is an approach that seeks to transform the organization of school curricula. Rather than being organized around content areas (e.g., English, mathematics, science), each semester is organized around a the-

matic "Purpose," which incorporates the traditional core subjects. For example, one semester of the kindergarten curriculum is organized around the purpose, *We Care for Living ThingsSM*.

The approach was adapted from a model developed in 1970 under the leadership of Audrey Cohen, founder of the College for Human Services in New York City (renamed Audrey Cohen College in 1992). It is one of several approaches sponsored by New American Schools, a national initiative to develop replicable schoolwide reform programs. As of August 1998, 16 schools in six states use Purpose-Centered Education; 12 of the 16 schools are elementary. The developer markets the system to elementary, middle, and high schools, and maintains that the system is designed for all learners.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. To date, there is insufficient research to determine whether Purpose-Centered Education has positive effects on student achievement. No publicly available studies use methodology that is rigorous enough to evaluate student outcomes. However, the college annually publishes *Signs of Success*, which contains some standardized test scores in reading, mathematics, and language.

Research on implementation is available, however. Four studies, conducted by contracted and independent researchers, track the implementation progress of the Audrey Cohen College schools that were sponsored by New American Schools.

Effects on Students. At the present time, no studies are considered rigorous enough to support conclusions about the effects on student achievement.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Purpose-Centered Education requires little organizational change within schools, according to the developer. The approach does, however, require that schools allow flexibility in scheduling classes for longer or shorter time periods, as needed, and that teachers plan collaboratively. Schools are required to have a facilitator, called a Staff Resource Specialist, who coordinates and sustains the reform effort. Typically, schools staff this position with existing personnel (e.g., a lead teacher or the director for staff development).

The developer expects school principals to demonstrate strong leadership and a philosophical commitment to the approach, and to maintain open communications with the faculty. The Audrey Cohen College system also requires a part-time liaison from the central district administration to work with the school.

Curriculum and Instruction. The defining characteristic of Purpose-Centered Education is a redesigned curriculum. Students work toward two Purposes in each grade (i.e., one each semester), studying the traditional subjects such as English, mathematics, and science in a thematic framework. According to the developer, this organization is designed to focus student learning on a "complex and meaningful purpose" that "contributes to the world at large." For example, the first-grade Purposes are *We Work for SafetySM* and *We Use Transportation to Bring the World CloserSM*. The fifth-grade Purposes are *We Improve the EnvironmentSM* and *We Use Technology to Meet Human NeedsSM*; the 12th-grade Purposes are *I Apply My Special Knowledge to Make a Better WorldSM* and *We Invent Cultural Relationships for a Stronger WorldSM*.

Each semester, students plan, implement, and assess a Constructive Action[®] in which the knowledge and skills they have learned that semester are used to benefit the community and the larger world.

The developer does not specify a particular instructional strategy, but encourages schools to incorporate a range of instructional practices. These practices may include: flexible scheduling of classes; whole-class, small-group, and individual instruction; team teaching; guest speakers (especially parents) who are termed "Purpose Experts"; "Purpose Trips"; and, other hands-on activities.

Supplies and Materials. The developer reports that it strives to use a school's existing textbooks and to work with schools to recommend supplemental materials. Audrey Cohen College is currently developing a list of recommended materials. Teachers are expected to develop curricula around each of the Purposes, using prototype materials.

Technology, most significantly e-mail and Audrey Cohen College's K-12 Web site chatrooms, plays an important role in facilitating collaboration among teachers, parents, and students.

Scheduling and Grouping. The developer does not require a particular approach to grouping students for instruction; however, it recommends grouping students at different achievement levels together. In addition, instructional staff are encouraged to schedule both the length of classes and the organization of activities and student groups within each period as appropriate for a given task.

Monitoring Student Progress and Performance. The developer has identified a set of 24 generic abilities, or Purpose-Achievement Standards, that students are expected to reach to demonstrate that they have achieved a Purpose. These standards are assessed each semester, from kindergarten through high school. Audrey Cohen College works with schools to align the Purpose-Achievement Standards with state and local guidelines for monitoring student progress and performance. The developer also emphasizes the importance of grades and writing samples, and coaches teachers to correct student performance problems.

Family and Community Involvement. The developer believes that parents play an important role in educating children. In addition to supporting their child's learning at home, parents are encouraged to contribute their professional skills by volunteering as "Purpose Experts." According to the developer, parents and business leaders frequently visit the school to share with students their own expertise as it relates to a semester's Purpose.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. The developer provides professional development throughout the school year. At the start of the first year, Audrey Cohen College provides a five-day orientation that introduces school staff to Purpose-Centered Education by discussing how it works and explaining how it is implemented. Staff from current Audrey Cohen Col-

lege schools are used as trainers during the orientation. In addition to training staff in the substance of Purpose-Centered Education, trainers seek to teach school faculties how to work more collaboratively. The developer uses existing staff development days during the school year to deliver additional professional development.

As noted above, schools are required to have a full-time Staff Resource Specialist who, along with other duties, coaches instructional staff. In addition, a liaison from the College is assigned to the district and participating schools. Starting in the 1998-1999 school year, liaisons may also be local or regional practitioners.

Implementation Requirements and Schools' Experiences. School districts interested in implementing Purpose-Centered Education follow their own decision-making processes to determine whether to implement the system. The approach does not require a vote or specific buy-in by school staff. After the decision to implement the approach has been made, the College schedules a five-day orientation.

Studies on the implementation of Purpose-Centered Education conducted by New American Schools found several strengths: students were involved and enthusiastic; teachers worked hard and collaboratively to develop and implement the new curriculum; and administrators supported teachers. The studies also illustrate challenges to implementation. For example, some teachers were unwilling to implement the system or unable to develop the new curriculum; some teachers considered the professional development to be insufficient; and some schools provided insufficient support in terms of materials, funding, and personnel. The studies also found that the quality of professional development varied depending on the trainers. Some teachers felt that professional development activities were only peripherally related to classroom activities, and that there was a lack of knowledgeable local personnel to assist schools in implementation. Finally, findings suggest that implementation may be easier at the

primary and elementary levels than at the secondary level.

COSTS

The first-year cost of adopting this approach is \$161,000. This cost covers professional development, including staff release time for orientation; materials; a licensing fee; and additional staff. However, schools can reduce this cost by approximately half, to \$86,000, by reassigning a current staff member to serve as the Staff Resource Specialist.

Audrey Cohen College charges districts a one-time licensing fee of \$7,000. Schools also pay the developer for training and professional staff development: \$36,685 in the first year, \$23,345 in the second year, \$22,425 in the third year, and \$10,000 in the fourth year. Materials cost \$7,878 in the first year, \$6,325 in the second year, \$4,025 in the third year, and market price in subsequent years.

Schools incur additional expenses for the five-day orientation (e.g., release time for teachers, materials) as well as the salaries for the Staff Resource Specialist and the district liaison. Cost estimates are based on a school with 500 students and 30 teachers (with the exception of the one-time licensing fee, paid by the district.) Fees do

not include travel, lodging, and meals for Audrey Cohen College personnel.

Reduction of fees is possible for multiple schools within a district. For example, if two to four schools in a district join, total fees (material, professional development, and one-time fee) would be \$40,563 per school in the first year (compared to \$51,563), \$27,270 per school in the second year (compared to \$29,670), and \$25,250 per school in the third year (compared to \$26,450). Audrey Cohen College provides a further discount if five or more schools agree to join the system in year one; the year-one fee would be reduced to \$31,510 per school under this scenario.

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BASIC SCHOOLS NETWORK

Evidence of positive effects on student achievement	?
Year introduced in schools	1992
Number of schools	150
Support developer provides schools	●
First-year costs	
with new staff	\$12,000
with current staff reassigned	No change

● = Strong ● = Promising ◐ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The Basic Schools Network is organized around four priorities:

- building a sense of community;
- developing a coherent curriculum;
- creating a climate that supports student learning; and
- developing students' character.

In line with these four priorities, Basic Schools defines five educational goals for students. After receiving a Basic Schools education, students should: 1) be able to communicate effectively; 2) have acquired a core of knowledge; 3) be motivated learners; 4) feel a sense of well-being; and 5) live responsibly.

The Basic Schools philosophy was developed by Ernest L. Boyer, the late president of the Carnegie Foundation for the Advancement of Teaching, based on research on community, curriculum, and school environment. The approach is summarized (including the research used to develop the approach) in his 1995 book *The Basic School: A Community for Learning*. American College Testing acted as a partner in the first funding cycle; the Ewing Marion Kauffman Foundation, James Madison University, and The National Association of Elementary School Principals are current partners. The first "basic school" was started in 1992, followed by a group of 12 elementary schools (the "original network") in 1994. As of summer 1998, over 150 schools are a part of the Basic Schools Network. Schools include a diverse array of sites—public urban and

suburban, private secular and religious, a Native American tribal school, a charter school, and overseas schools. Basic Schools plans to continue to expand both its network of regional support centers and the number of schools using the approach. The Basic Schools Network also plans to launch an urban initiative.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. The Basic Schools Network is a relatively new approach. It has not yet built a base of rigorous research on student achievement outcomes, nor are there studies that document the implementation efforts of schools. However, a report on achievement in the 12 "original network" schools is anticipated for release by 1999. The developer also is collecting test data and making them publicly available.

Effects on Students. At the time of this report, there are no studies of sufficient rigor on which to base conclusions about the student achievement effects of Basic Schools.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. This approach encourages schools to create a positive "climate for learning," including small classes and flexible grouping, access to a large range of resources and materials, and support services and referrals for non-academic needs of students.

The Basic Schools approach requires some flexibility in scheduling classes and in providing planning time for teachers. Schools are expected to set aside regular time at least once per week for teachers to plan. In addition, although not required, some Basic Schools have chosen non-traditional strategies for scheduling classes, such as keeping the same group of students with a teacher for at least two years and grouping children of different ages into the same class.

According to the developer, administrative support is necessary to develop a community among teachers, principals, and parents. In addition, since the approach may require modifying the curriculum, the principal must provide staff with the necessary time and resources to make these changes.

According to the developer, no additional staff is needed. However, the developer strongly recommends small classes, especially from kindergarten through third grade, which might require the hiring of additional teachers and aides.

Curriculum and Instruction. The Basic Schools Network does not provide or require a specific curriculum, but the developer does encourage schools to develop integrated, thematic teaching units that incorporate the content and skills required by district and state standards. Examples of themes include: The Life Cycle; The Use of Symbols; Membership in Groups; A Sense of Time and Space; Response to the Aesthetic; Connections to Nature; Producing and Consuming; and Living with Purpose.

According to the developer, in addition to creating academic competency, the curriculum should help children develop character by emphasizing core virtues (e.g., honesty, respect, responsibility) and by encouraging students to apply what they learn in the classroom to everyday life. The curriculum should focus on language and literacy. (In Basic Schools, mathematics and arts are described as "essential languages," so "language," here, is broadly defined.)

Supplies and Materials. The approach does not supply or require specific instructional materials. However, schools are encouraged to focus on quality literature (e.g. Caldecott and Newberry books), use varied approaches to reading instruction (i.e., phonics, whole word, and whole language), and have a plan for integrating technology into the curriculum.

Scheduling and Grouping. The Basic Schools Network recommends small classes, a flexible

teaching schedule, and student groups appropriately assembled for each task. The developer does not require any specific strategy for arranging students into instructional groups, but suggests that teachers consider the purpose of the activity when arranging groups and use a variety of different grouping strategies. For example, the developer recommends: grouping students into homerooms to create a sense of family; placing children of different ages together to help them learn to work cooperatively; placing students of similar achievement levels together for concentrated, in-depth study; and working together with all students in the school to develop a sense of community.

In addition to flexible grouping, the developer recommends flexible scheduling "so that the clock is adjusted to the lessons, and not the other way around."

Monitoring Student Progress and Performance. Basic Schools are expected to assess academic progress with diverse strategies. According to the developer, assessments should be developed along with the integrated curricula, not separate from them, except for mandated district or statewide standardized testing.

Student progress can be assessed with a variety of methods, including: standardized tests; assessments given on computers; portfolios of student work; products from projects; pencil-and-paper tests; surveys of parents and teachers; and self-assessments. In a recent survey reported by the developer, 81 percent of Basic Schools teachers stated that they looked at anecdotal records, 85 percent kept checklists of skills, 93 percent evaluated students' performances on sample tasks, 71 percent reviewed students' portfolios, and 79 percent examined results from students' projects.

Family and Community Involvement. The Basic Schools Network encourages schools to form partnerships with parents and community members. Some schools have extensive parent volunteer programs, and others have hired staff to work as "parent liaisons."

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. Professional development in a Basic School is both designed at the school level and provided by the Network. In the first year, schools are expected to form a staff study group around the book *The Basic School: A Community for Learning*. School staff then develop a plan for professional development that is consistent with the four major priorities of a Basic School (community building, a coherent curriculum, a climate that supports student learning, and character development).

When the Network was founded, it provided participating schools with a yearly grant to support teacher release time for inservice training and development. Schools since have created new daily schedules to provide such planning time for staffs. Professional development provided through the developer also includes the following activities:

- *Summer Institutes.* These are offered in several locations each summer for teaching teams and administrators from Basic Schools. Attendance is strongly encouraged and, according to the developer, institutes quickly fill to capacity. Institutes offer speakers and workshops on the approach's four priorities: community, curriculum, environment, and character. An institute may highlight one priority and offer additional workshops in that area. Institutes also offer Network members time to plan collaboratively and to share successful teaching materials and strategies. Most institutes are two to four days in length.
- *Meetings for Administrators.* Each year, the Basic Schools Network holds an annual Administrators' Meeting, in which Network administrators discuss challenges and successes.
- *A University Partnership.* According to the developer, most Basic Schools develop a partnership with the education department of a

local university. This partnership allows for inservice training and access to research and guidance for the school, while providing university personnel with opportunities to teach at the elementary level, engage in research, and place practicum and student teachers.

- *Mentors.* A Basic Schools Network mentor works with staff at each school to develop long-term and short-term goals, create thematic units, resolve problems, demonstrate teaching strategies, and otherwise guide staff through implementing the Basic Schools approach. Most mentors are experienced staff members from existing schools (at this point, most mentors are from one of the original demonstration sites). Many Network schools have mentors who teach at the school and are resources for other staff. Generally, a mentor will make four two-day visits per year to a school and be in frequent contact by e-mail, regular mail, phone, or fax.
- *Regional Centers.* Six regional centers, located in Virginia, Texas, Missouri, Iowa, North Carolina, and Oregon, offer technical assistance, professional development, and other types of support (e.g., connecting schools with other Basic Schools in their area). Professional development offered through regional centers includes: building a school's community; developing curricula; establishing a school climate that supports learning; integrating character development into the existing curricula; addressing parent and community groups; building business and community partnerships; developing projects that serve the community; and connecting students with senior citizens.

The Network also is developing distance learning courses, workshops, and seminars to be provided through universities.

Implementation Requirements and Schools' Experiences. According to the developer, there are five stages to becoming a Basic School. First, schools interested in the approach contact re-

gional centers to request information, obtain an overview of the approach, and arrange for a Basic Schools mentor to visit the school.

Second, schools that are still interested may read *The Basic School: A Community for Learning* in study groups, arrange for professional development sessions, and begin a school self-evaluation focusing on community, curriculum, environment, and patterns of behavior.

Third, schools may make a formal commitment with the Basic Schools Network for long-term involvement. These schools develop short- and long-term goals based on the school's self-assessment.

After making a formal commitment, schools begin to set priorities. Schools at this stage are expected to arrange for professional development and technical assistance from a regional center, participate in institutes, build leadership capacity, provide support for staff, re-evaluate the self-assessment, and document renewal efforts.

Finally, a school may take a leadership role in the Basic Schools Network. A school at this final stage of implementation is committed to the central ideas of Basic Schools. While continuing to implement the approach in the school, this school can collaborate with a regional center and serve as a demonstration site for interested schools.

COSTS

The program director estimates the first-year cost of becoming a Basic School at around \$12,000 per year for a typical school, depending on level of implementation. This figure is stable in subsequent years. Although the developer does not provide or require the purchase of materials, implementation may require additional professional development, release time for teachers for planning, and additional time for teachers for curriculum development. The amount of professional development and release time will vary from school to school. In some cases, grants have been obtained to help with the cost of both implementation and continuing support of the program.

Costs for implementing Basic School concepts also depend on whether a local mentor is available. If not, airfare and normal travel expenses are incurred in addition to the mentor's consultation fee, which currently is \$500 per day.

In calculating costs, schools should note the following specific cost items: monthly time for collaborative teacher planning; institute attendance for a school team of four to 15 staff persons; Basic Schools materials for the staff (copies of the report, overheads, suggested curriculum enhancement materials, and additional literature); a site visit for a school team to an existing Basic School; membership fee; and consulting costs for four school visits.

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COALITION OF ESSENTIAL SCHOOLS

Evidence of positive effects on student achievement	○
Year introduced in schools	1984
Number of schools	1,000
Support developer provides schools	■
First-year costs	
with new staff	Not available
with current staff reassigned	Not available

● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The key feature of the Coalition of Essential Schools (CES) is the set of "Common Principles" that guide school reform:

1. The school should focus on helping children learn to use their minds well.
2. The school's goals should be simple: that each student master a limited number of essential skills and areas of knowledge.
3. The school's goals should apply to all students.
4. Teaching and learning should be personalized to the maximum feasible extent.
5. The governing practical metaphor of the school should be student-as-worker, teacher-as-coach.
6. The diploma should be awarded upon demonstration of mastery of the central skills and knowledge of the school's program.
7. The tone of the school should stress un-anxious expectation, trust, and decency.
8. The principal and teachers should perceive themselves as generalists first and specialists second.
9. Teacher loads should be 80 or fewer pupils, and per-pupil cost should not exceed traditional school costs by more than 10 percent.
10. The school should demonstrate non-discriminatory and inclusive policies, practices, and pedagogies.

The Coalition of Essential Schools (CES) is not a specific model of school reform. Rather, the Common Principles are intended to be used by schools to shape their own reform efforts—including curriculum and instruction—that fit their particular situations. Although the developer recommends several instructional techniques and methods of scheduling students consistent with the Common Principles, no specific changes are mandated.

The Coalition of Essential Schools was founded in 1984 by Theodore Sizer, Professor of Education at Brown University. Based on the findings of Sizer's *A Study of High Schools*, conducted from 1979 to 1984, and his widely read book, *Horace's Compromise*, Sizer delineated a set of principles to guide reform in high schools. Subsequently, CES has expanded to include elementary and middle schools. In 1988, CES and the Education Commission of the States formed a partnership, *Re: Learning*, which focuses simultaneously on reform at the school level and policy changes at the state level. In 1998, approximately 1,000 schools (more than half elementary schools) were engaged with CES at some level of involvement; about 250 of those schools were Coalition members. Fifty regional centers and networks provide support to member schools and to other schools exploring or planning membership.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. The research on Coalition of Essential Schools is extensive with respect to implementation, but quite weak with respect to student achievement outcomes. Of the 30 available studies, six focused on student-level outcomes. Of these six studies, two were found to be sufficiently methodologically sound to report here.

Research on implementation of the Coalition's Common Principles is quite strong. Twenty-four available studies—primarily case studies, many with cross-site analysis—focused on schools at-

tempting to adopt the Common Principles, or some subset of them. In addition, a series of profiles of 27 Coalition schools provides anecdotal evidence of successful implementation.

Effects on Students. The research shows mixed effects on student achievement. Only two studies were found that had student outcome data and were rigorous enough to be considered here. One study found that one school's scores on the Delaware Educational Assessment Program rose from 46.0 to 50.5 over three years. The second study found that reading and mathematics scores on the Comprehensive Test of Basic Skills dropped over time.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. District commitment, as evidenced by a letter from the school board or the district office, is a requirement for a school's membership in the Coalition. In addition, the school's principal must be willing to include teachers and other staff in deciding on the school's goals, schedules, and management. The developer requires that 80 percent of a school's faculty vote to participate in the Coalition of Essential Schools.

The Coalition encourages schools to think about ways in which they can become "smaller, more personalized" learning communities. To this end, some member schools have limited student enrollment, while others have employed a "school-within-a-school" strategy. Although the Coalition does not actively promote this approach, the developer says that implementing the Common Principles in a school-within-a-school can be an appropriate first step toward full implementation. If this approach is taken, the developer stresses the importance of the rest of the school supporting the strategy and developing a plan for eventual schoolwide implementation of the strategy.

The Coalition feels that the Common Principles should guide change within the school's particular context. Therefore, the Coalition is willing to

work with schools regardless of their organizational or management structure.

Curriculum and Instruction. The Coalition does not provide or require schools to adopt a specific curriculum or particular instructional techniques. Instead, the developer encourages teachers to work with the same set of students and have common planning time so that they get to know students well and can plan instruction that is intellectually focused, rigorous, and appropriate.

As embodied in the second Common Principle, the Coalition suggests that teaching staff, with input from parents and community members, identify a limited number of goals students should achieve by the time they leave the school. Teachers should focus the curriculum and instructional techniques around the identified skills and knowledge, governed by the philosophy "less is more." According to the developer, superficial coverage of many areas should give way to deep exploration of fewer areas.

Supplies and Materials. The developer does not provide or require any specific materials, but makes professional development available to help teachers develop curricula around essential questions.

Scheduling and Grouping. The Coalition encourages secondary schools to maintain a ratio of 80 students to one teacher, and elementary schools to maintain a ratio of 25 students to one teacher. It also encourages teachers to have the same expectations for all students and, therefore, to place students of different abilities together in the same instructional group (i.e., heterogeneous grouping). The developer encourages block scheduling, in which classes meet for longer periods every other day. Both block scheduling and team teaching (i.e., two teachers working together in several subject areas with a larger group of students) are seen by the developer as promoting deeper learning among students. However, none of these components is mandatory to the approach.

Monitoring of Student Progress and Performance. A key component of the Coalition of

Essential Schools is embedded in the sixth Common Principle, which calls for students to demonstrate their mastery of skills and knowledge. According to the developer, mastery is often demonstrated through student exhibitions, which vary across schools. For example, at some schools, students work during their final year of school on a year-long project to show their mastery of the subjects studied, and they take oral examinations in all subjects.

The national Coalition office encourages schools to use a combination of standardized and "authentic" (i.e., similar to tasks one encounters outside of school) methods of assessment, according to their individual needs. In considering the success of their programs, CES encourages schools to consider developing "habits of mind" in students and a school culture that promotes decency and trust.

Family and Community Involvement. The developer states that family and community outreach is an important component of the approach, particularly in defining the goals the school sets for students. It encourages schools to involve family and community members in identifying the skills and knowledge that students should be expected to master in order to graduate.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. Although no specific professional development is mandated for teachers in Coalition Schools, as a condition of membership in the Coalition, schools must affiliate with a Regional Center and demonstrate that they have sufficient funds in their budgets for staff development and planning. Schools at any stage of the Coalition's implementation process—exploration, planning, or membership (see *Implementation*, below)—may turn to a Regional Center for technical assistance. The developer provides Coalition members with optional professional development at the school, annual

publications, and access to a network of Coalition teachers. The annual optional Fall Forum provides an opportunity for teachers from different schools and different parts of the country to come together to share experiences, exchange ideas about how the Common Principles can be implemented, and investigate instruction and assessment techniques. The Coalition is developing measures of school progress to help teachers and schools evaluate implementation of the Common Principles.

Implementation Requirements and Schools' Experiences. Implementation of the approach is supposed to progress through three phases: exploration, planning, and membership. According to the developer, schools that are exploring the Coalition of Essential Schools begin by examining the Common Principles, discussing their meaning in faculty meetings, and determining whether the philosophy is consistent with the school's goals. In the planning stage, which typically lasts at least a year, a school plans how it will implement the Common Principles, including any changes in scheduling and instructional practice that teachers decide will have to be made in order to support adoption of the Principles.

During the planning process, a school may apply to its Regional Center for membership. Different Regional Centers have different requirements for membership. However, in general, schools are evaluated on several criteria, including: agreement with the Common Principles on the part of the school faculty; commitment to reform; professional and financial support from the district; sufficient funds for staff development and planning; and a commitment to self-evaluation. In addition, schools must be willing to share information about their work with the Coalition and with other schools in the Coalition. At all stages of implementation, including preparing applications for membership, schools may turn to their Regional Center for technical assistance.

Findings from the implementation research are mixed. Although the research suggests that suc-

cessful adoption of the Common Principles is typically viewed positively by teachers, it also suggests that adoption of the Principles is often difficult. Difficulties include: (1) problems in interpreting and understanding the Common Principles; and (2) problems in implementing the Principles using a "school-within-a-school" model. In addition, some implementation research has found that schools already perceived as successful may have a hard time making the changes needed to implement the Common Principles.

- *Interpreting the Common Principles.* Multiple researchers have reported that schools often have had a difficult time in determining the meaning of the Common Principles. This problem has been especially apparent in schools that have become members of the Coalition before teachers have developed a common understanding of the Principles and their application. In many cases, when teachers have then attempted to implement the Principles, they have realized that they did not all interpret the Principles in the same (or even similar) ways.
- *Implementing the Common Principles in a School-Within-a-School.* Many schools have attempted to implement the Common Principles in just one portion of the school. (Examples of Essential Schools programs that have followed a "school-within-a-school" model have included programs for a portion of students at one grade level, and a "magnet" program viewed as an alternative to an honors or a vocational track.) Typically, though not always, these schools have started the school-within-a-school program as an experiment, intending to implement the Common Principles schoolwide if they work well in the school-within-a-school.

Case studies of such arrangements have found, at best, that Essential Schools school-within-a-school programs are marginalized; they are not seen by teachers outside the school-within-a-school as central to the

school. At worst, the school-within-a-school model has resulted in tension between teachers, with teachers outside the Essential Schools program feeling resentful of what they perceive as preferential treatment of teachers in the Essential school. Because of these tensions, this has not proven to be an effective means of introducing and adopting the Common Principles as a schoolwide reform.

COSTS

No information on costs is available from the developer. However, the ninth Common Principle states that the approach should require a level of funding no more than 10 percent higher than what the school would normally require.

One implementation study—a set of several case studies—found that some schools spent far in excess of the recommended additional 10 percent (through a combination of extra support from the district and grants) to implement their Essential Schools programs.

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COMMUNITY FOR LEARNING

Evidence of positive effects on student achievement	●
Year introduced in schools	1990
Number of schools	92
Support developer provides schools	●
First-year costs	
with new staff	\$157,000
with current staff reassigned	\$82,000

● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The goals of Community for Learning are to improve students' academic achievement, behaviors, and attitudes and to promote independent learning habits. Community for Learning encourages the coordination of classroom instruction with community services (e.g., health, libraries, social services, and law enforcement) in an effort to improve individual student learning. The approach is based on research on the influence of school, family, and community on student learning. According to the developer, schools should remain the primary focus of efforts to improve the academic achievement of students; however, learning is affected by a variety of environments in addition to schools (e.g., the workplace, church, home, community

organizations, social service agencies, and higher education institutions).

Margaret C. Wang, Professor of Educational Psychology and Director of the Temple University Center for Research in Human Development and Education, established Community for Learning in 1990. The roots of the approach extend back to the 1960s, however. During the 1970s, the program expanded to provide special education services in an "inclusion" environment and to include all elementary and middle grades. This version of the program became the instructional model known as the Adaptive Learning Environments Model (ALEM). A community involvement component was added in 1990, and the program was renamed the Learning City Program (LCP). In 1995, the program was renamed Com-

munity for Learning. To date, 92 urban and rural schools have implemented the Community for Learning approach, including 25 middle schools and two high schools. An additional 37 schools are implementing selected components of the approach. Although a variety of students are served, the program is primarily geared towards "students placed at risk."

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. There are a substantial number of studies on the student achievement effects of this approach. Of the 13 studies reviewed, five were sufficiently rigorous to be discussed here. Two of these studies, including one that was the culmination of longitudinal research, were conducted by independent researchers.

Unfortunately, few studies included data on comparison groups. Although many studies looked at the learning progress of Community for Learning students, they did not compare this progress with that of similar students receiving either no reform or a different model.

In addition to research on outcomes, 11 studies have investigated the implementation of Community for Learning, and, in particular, ALEM, the approach's instructional component.

Effects on Students. Evidence of positive effects on student achievement is promising, based on the outcomes from five studies. One study, by the developer of Community for Learning, found that students using the approach had higher reading and mathematics achievement than students who were not using the approach; and that test scores in schools using the approach improved at the same time that scores in similar schools declined. A second study, also by the developer, found that mathematics and reading standardized test gains were significantly higher for students in Community for Learning schools compared to national norms. This study also found that mainstreamed special education students in

Community for Learning schools scored significantly higher than similar students not using the approach.

The only two rigorous studies conducted by independent researchers did not find such positive results, however. One study found no differences in student achievement with respect to the amount of time spent in Community for Learning classes, and found no significant differences in achievement across three years of implementation. These findings may be due to the students' high level of initial achievement. The other study investigated differences in students' rates of progress; it found that Title 1 students and special education students in a Community for Learning school progressed at a significantly slower pace than regular education students. Because both of these studies compared different groups of students within Community for Learning schools, they do not show whether the approach as a whole is more or less effective than other approaches.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Community for Learning encourages a system of shared decision making involving school staff, parents, and the community.

To implement the approach, a small number of additional staff may be required. The developer requires each participating school to have a facilitator. Each district is required to have a staff member work part-time to coordinate among Community for Learning schools in the district and with community social service agencies. The developer assumes that these positions can be filled by reassigning existing staff to new roles.

There are also several site-based teams that must be created. These include a School Council Leadership Team and an instructional team.

Curriculum and Instruction. Community for Learning uses the Adaptive Learning Environments Model (ALEM) for instruction. This

model is based on the premise that the key to high achievement is to tailor instruction to the particular needs of individual students, focusing first on literacy. In line with this philosophy, the approach requires an individualized learning plan for every student.

The ALEM model encourages teachers to use a range of grouping strategies, depending on the task, such as working with students individually and in small- and whole-group instruction. Teachers are expected to teach both individually and as a team.

Although a range of teaching strategies are prescribed, Community for Learning does not provide or promote specific curricula or frameworks. Instead, the developer attempts to align school curricula and instruction with district or state standards.

Supplies and Materials. Community for Learning does not provide or require special supplies or materials. Instead, teachers are expected to create and maintain materials in line with the ALEM philosophy. According to the developer, materials should be "student-centered" and suitable for "interactive teaching."

Scheduling and Grouping. Teachers in Community for Learning schools are expected to group students in whole classes, in small groups, and individually, depending on the task and student needs. The developer notes that teachers work in teams and have collective responsibility for students, so students may work with other classes or grades as appropriate. The developer encourages the daily schedule of class periods to be adjusted as needed for the given task.

No specific scheduling changes are required. However, the developer recommends providing a common planning period for teachers.

Monitoring Student Progress and Performance. The instructional model, ALEM, advocates the development of an individualized learning plan for each student; students progress at their own pace and teachers provide regular feedback to stu-

dents. Instructional staff are expected to keep daily records of performance (e.g., completing tasks). Criterion-referenced assessments (where students' knowledge and skills are measured) are used to assess each student's skill level. If students are performing significantly below or above expectations based on criterion-referenced assessments or ongoing records of performance, the plan for instruction is modified. Modifications may include altering the pace of instruction or adapting the materials students use in class.

Family and Community Involvement. Community for Learning supports the idea that students learn outside as well as inside the classroom. Successful reform, according to the developer, must coordinate education, health care, law enforcement, and other social services to support student learning.

The approach emphasizes open communication and a sense of shared responsibility among the school, parents, and community. In line with this philosophy, schools are encouraged to conduct a variety of activities to inform parents of the approach as it is implemented. Although the specific types of parent or community involvement activities are determined at the school level, schools are required to give formal and informal reports on student progress to parents and are expected to encourage parents to participate in modifying individualized instructional plans and be involved in the child's education at home.

The developer encourages Community for Learning schools to make community services more accessible. For example, schools might establish a health center or coordinate with hospital mobile services to make periodic visits.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. Professional development activities begin before the approach is implemented and continue during the school year. In pre-implemen-

tation, Community for Learning staff spend two or more days discussing the approach with school staff and community members, and school staff spend another one to two days assessing the needs of their particular school. Following this preliminary training, the developer spends four days each with principals, facilitators, school staff, and district staff providing more detailed instruction in the approach. Ongoing staff development during the school year consists of eight to ten days of on-site professional development and technical assistance for school staff, additional training for the facilitator, and program evaluation assistance for district staff. According to the developer, professional development is tailored to the needs of the school and instructional staff based on information gathered through regular assessment of implementation. Topics may include standards, instructional strategies, training for the instructional team, mentor training, and facilitator training.

The facilitators are trained by the developer on site and at three to four regional one-day meetings each year. In addition, all facilitators from Community for Learning schools in a district meet monthly to share strategies.

Implementation Requirements and Schools' Experiences. The developer has identified nine steps required to implement Community for Learning (recognizing that some steps may vary somewhat depending on the site). The steps are expected to take three years and are grouped into three phases:

- providing information to the district or school and helping establish a team for implementation;
- assessing district- and school-level needs and planning; and
- putting the plans into action.

During the first phase, providing information to the school district: 1) the district or school contacts the Center for Research in Human Development

and Education (CRHDE) to learn more about the program; 2) district or school representatives meet with a Community for Learning representative to discuss the program and how it can be implemented; and 3) a district leadership team is established to work with CRHDE to develop an implementation plan outlining the support that will be provided to all participating schools. At this point, the district's central office assigns a project director as a liaison between the Community for Learning schools in the district and CRHDE.

The second phase, assessing and planning district- and school-level needs, involves: (1) ensuring that there is staff consensus and commitment for implementing Community for Learning; (2) assessing the district's and school's needs and strengths, through discussions with the district leadership team, parents, school staff, administrators, and community leaders and through 20/20 analysis of student achievement (looking at the top and bottom 20 percent of students); and (3) working with Community for Learning implementation specialists to develop a specific plan for each school.

The third phase, putting the plans into action, includes: (1) pre-implementation training of school staff, administrators, and a full-time, on-site facilitator assigned to each school; (2) monitoring progress toward the objectives set out in the plans (e.g., through meetings among key stakeholders, interviews of staff and students, and degree of implementation assessments); and (3) measuring student achievement against district or state standards on an ongoing basis.

The developer states that it guides implementation closely. At least every quarter, the developer reviews achievement data and shares findings with instructional staff. Twice a year, the developer visits the school to evaluate implementation, using indicators of implementation. Further, facilitators are trained to use these indicators to target professional development to teachers' needs. Although teachers may join throughout the year,

by the end of the first year of implementation, the developer expects all teachers to be working with the approach.

An interim implementation report by the developer found, among other things, that: pre-implementation was feasible; the pre-implementation training provided school staff with sufficient knowledge and skills to implement the program; classroom instructional practices did change as a result of the program; and student achievement improved. The report did not discuss the difficulties, if any, faced by schools implementing Community for Learning.

A number of studies by the developer also have investigated implementation using a specific assessment tool. For example, a series of articles investigating implementation of Community for Learning in ten districts found that, by the end of the first year, the average degree of implementation was high, with average scores across 12 dimensions and across sites of 92 percent. All dimensions were implemented at or above 83 percent. In addition, there was a continuous progression of implementation seen across three site visits during the year. These studies also concluded that Community for Learning tended to be related to students' positive perceptions of their school and learning. Students using the approach tended to feel that the instructional environment (including teachers' attitudes and approaches to instruction) was more supportive and tended to have better self-concepts compared to students in classes not using the approach.

COSTS

The first-year cost of adopting Community for Learning is \$157,000. This cost covers professional development, including staff release time, and additional staff. This cost can be reduced to

\$82,000 by reassigning a current school staff member to serve as the school facilitator and a current district staff member to serve as the part-time project coordinator.

According to the developer, the costs of implementing Community for Learning in a school of 500 students vary from school to school depending on the amount of guidance the school needs. The first-year costs of pre-implementation training and technical assistance from the developer are estimated to be \$30,000 per school; the second-year costs to be \$15,000 per school; and the third-year costs to be \$5,000 per school. A more detailed breakdown of the fees paid to the developer is not available. The developer does not account for the costs associated with reassigning existing personnel to the roles of school facilitator and district coordinator. Each school requires a full-time school facilitator, and each district, a part-time coordinator. If additional personnel are hired, these costs must be added. In addition, a school or district may encounter "hidden costs," such as release time for staff, which are not included in the above estimates.

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Co-NECT

Evidence of positive effects on student achievement	?
Year introduced in schools	1992
Number of schools	75
Support developer provides schools	●
First-year costs	
with new staff	\$588,000
with current staff reassigned	No change
● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research	

OVERVIEW

Co-NECT is a schoolwide approach that focuses on improving achievement by integrating technology into instruction, organizing lessons around interdisciplinary projects, and reorganizing schools into multi-grade clusters of students and teachers.

The Co-NECT organization reports that the approach is based on a large body of research on effective schools, primarily drawing from three research strands. First, it draws from research showing that schools can improve student performance when the whole faculty focuses on achieving challenging, concrete, and measurable results. Second, it incorporates research linking increased student achievement with schools that allow teachers to take responsibility for a com-

mon group of students and promote close, sustained relationships among teachers, students, and families. Third, it encourages *authentic pedagogy*, which requires students to think, develop in-depth understanding, and apply academic learning to important, realistic problems. According to the organization, the approach also incorporates two other "best practices": using multiple standards of assessment, and incorporating technology in ways that enhance student learning.

Co-NECT was founded in 1992 by members of the Educational Technologies Group at BBN (Bolt, Baranek, and Newman) Corporation. It is one of several approaches sponsored by New American Schools, a national initiative to develop replicable schoolwide reform programs. In the 1998-99 school year, 75 schools in eight states

were using the approach. Of the 47 schools working with the developer in the 1997-98 school year, there were 25 elementary schools, 15 middle schools, five high schools, one K-8 school, and one K-12 school.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. Co-NECT is a relatively new approach and has not yet built a rigorous research base on student achievement. Two studies conducted by the Co-NECT organization examined student outcomes; however, neither was considered rigorous enough to report the findings here. Co-NECT also is collecting and analyzing student outcome data gathered by districts. These longitudinal data can be obtained from participating districts and the developer.

There is a strong base of research on implementation. Seven studies (four conducted by independent researchers and three conducted by the developer) tracked the implementation progress of Co-NECT schools.

Effects on Students. At the time of this report, there were no studies of sufficiently rigorous methodology on which to base conclusions about Co-NECT's effectiveness in increasing student achievement.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Co-NECT encourages significant organizational changes, based on research and best practices, but does not require any specific action. Schools are encouraged to reorganize into small communities of teachers and students from different grade levels ("clusters"). Parents, teachers, and students also are asked to form a school design team to help plan and implement reforms. Although not required, schools are encouraged to hire a local facilitator.

Co-NECT also provides a full-time site director to work with a group of approximately five schools within a given geographic area. According to Co-NECT, a site director visits each school regularly, conducts training workshops, and guides teams. Many site directors have been teachers or administrators in Co-NECT schools.

Curriculum and Instruction. In the Co-NECT approach, students work on projects that can cover multiple content areas, solving real-life problems. According to the organization, this project work is designed to develop in-depth understanding in a range of content areas, higher-order thinking skills, and strong skills in reading, writing, and mathematics. Many projects apparently involve the use of technology, including using computers to share information with students in other schools and to communicate with experts in different fields. Students are expected to demonstrate their skills and knowledge with products and presentations.

Teachers are expected to develop three projects per year, using a common planning period to work together on them. Using the Co-NECT Exchange, the organization's Web site (www.co-nect.com), teachers can choose from projects developed by Co-NECT staff or other teachers. Examples of projects recently available are *Why Vote? The Co-NECT Election Project*, a one month program for third through tenth grade, and *The Underground Railroad Project*, a year-long project for third through eighth grade.

Supplies and Materials. Two types of instructional resources are seen as vital to the approach: a technology infrastructure, and materials for project-based instruction. The developer requires schools to provide Internet access for teachers so that they can access Co-NECT's online services. It encourages, but does not provide or require, computers on every teacher's desk and in every classroom, suggesting an optimal user-computer ratio of 5:1. No specific materials are required or provided for project-based instruction.

Scheduling and Grouping. Co-NECT does not require any specific grouping or scheduling changes. However, the developer encourages schools to set up a common planning time for teachers to plan projects together and to schedule blocks of time during the day for students to conduct group projects.

To help students develop bonds with their teachers, Co-NECT recommends that students stay with the same teacher for at least two years. In this practice, called "looping," a teacher follows a group of students from one grade to the next, and then starts over. For example, a teacher might teach fourth grade one year, fifth grade the next, and sixth grade the next, then "loop" back to fourth grade.

Monitoring of Student Progress and Performance. Co-NECT calls for multiple forms of assessment, including standardized tests, student portfolios, exhibitions, classroom observations, and other indicators. The developer provides a comprehensive set of rubrics and a process for scoring student portfolios. The developer also helps schools develop assessments and provides workshops to help faculty use the assessment tools.

Beginning in the 1998-99 school year, Co-NECT helps schools create schoolwide portfolios of student work. Co-NECT staff will train panels of community raters (for example, parents and business leaders) to evaluate the quality of students' work and create a composite picture of student achievement that can accompany standardized test scores.

Family and Community Involvement. According to the developer, Co-NECT emphasizes parent and community involvement. Parents and community members are encouraged to volunteer in the classroom and serve on the school design team or the portfolio and implementation review panels. Businesses are encouraged to provide schools with access to resources and to work with students on community projects, internships, and other activities.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. Co-NECT offers both on-site and online assistance to help participating schools implement five evaluation criteria (see the *Implementation* section, below) within a three-year period. In addition, Co-NECT schools participate in Critical Friends, which provides an opportunity for schools to learn from each other. Each year, through Critical Friends, schools send three staff members to another Co-NECT district for three days to evaluate that school's implementation of Co-NECT.

Each year, Co-NECT begins with a two-day training session for faculty. Co-NECT provides three three-hour professional development sessions spread across the school year on topics such as standards-based projects, portfolio assessments, use of test results, and technology. According to Co-NECT, the sessions can be scheduled by the schools to take place during or outside of regular school hours during the school year.

A Co-NECT site director provides regular on-site support, meeting with teachers during their common planning time, and coordinating three meetings per year with principals and district personnel. To meet other professional development needs, Co-NECT offers online training modules developed to meet needs identified across schools.

Implementation Requirements and Schools' Experiences. Before implementing Co-NECT, a school must meet several conditions. The Co-NECT organization requires that 75 percent of the faculty vote to adopt the approach. Co-NECT prefers to work with at least five schools in the district or region, to keep costs down, leverage resources, and ensure that the transforming schools are not isolated. The organization expects schools to have a concrete plan to ensure that they will have the necessary computers, networks, and software to implement the approach.

During each year of implementation, progress is reviewed against evaluation criteria in five areas: (1) high expectations for all students and schoolwide accountability for results; (2) schoolwide emphasis on practical application of academic knowledge to authentic problems; (3) use of assessments that measure actual student and school performance; (4) organization of the school into small houses of students and teachers from different grades; and (5) sensible use of the best available technology for everyone. The organization hopes that schools using the model will be able to continue on their own after three years of implementation; however, according to Co-NECT, schools may continue to participate in various Co-NECT activities after the third year.

For the schools studied in the research, progress toward implementation was promising. In the first year of implementation, schools showed moderate progress, using some components of Co-NECT (project-based instruction, student portfolios, teacher teams, and Critical Friends). Multi-age grouping was not implemented in all Co-NECT schools during the first year.

Two years after adopting Co-NECT, according to these studies, most of the central parts of the approach—instruction, standards, student assignment, and professional development—were consistent with Co-NECT's ideas. However, some schools still had not fully implemented the approach in regard to changing instruction across the curriculum, assessment, and community involvement.

One study identified several obstacles to implementation, including difficulty organizing the curriculum into projects and using technology to support the projects.

Beginning in the 1998-99 school year, Co-NECT is coordinating reviews of implementation in Co-NECT schools. Similar to the Critical Friends process, a panel of stakeholders from the school board, community, and developers will evaluate

the implementation of the approach against evaluation criteria in all Co-NECT schools.

COSTS

The first-year cost of adopting Co-NECT can be as high as \$588,000. This cost covers professional development, including staff release time; participation in the Critical Friends network; and an estimate for installing start-up technology in a school that has no hardware or software.

An average school of 500 students pays Co-NECT \$55,000 for each of the first three years. This fee covers the salary of the site director (which is shared across five or more schools), unlimited access to the Co-NECT Exchange, professional development, registration for three teachers at Co-NECT's national conference each year, and participation in the Critical Friends component (meals and hotel).

Other costs differ by school, depending on the technology already in place, level of professional development needed, strategy for compensating teachers for professional development, and level of guidance needed to integrate school change with district strategies.

Schools are responsible for additional expenses, including: travel and hotel costs for the national conference; release time and travel costs for Critical Friends visits; release time for on-site training; and compensation for teacher attendance outside of regular school hours. Co-NECT estimates that a school of 500 students will need 75 substitute days in the first year and 65 days in each of the next two years for training. Critical Friends and the annual conference are estimated to cost \$7,500 for each of the first two years and \$6,500 for the third year (hotel and airfare). Travel expenses for the site director (if not local) are estimated to be \$4,800 for the first year and \$3,500 for each of the next two years. In addition, Co-NECT advises schools to budget time for teachers to develop projects for their classes.

The fee paid to Co-NECT does not cover hardware or software beyond the organization's Web-based tools and resources. The estimated cost for an average classroom, including a teacher presentation station and four student stations, is \$20,000. Co-NECT estimates that start-up technology costs for an elementary school of 500 students with no wiring, hardware, or software could be as much as \$500,000. According to the organization, however, many schools and districts that work with Co-NECT have already made these technology investments. In addition to start-up costs, the school might expect to pay for Internet service, upgrades, and maintenance.

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CORE KNOWLEDGE

Evidence of positive effects on student achievement	●
Year introduced in schools	1990
Number of schools	750
Support developer provides schools	●
First-year costs	
with new staff	\$56,000
current staff reassigned	No change

● = Strong ● = Promising ▣ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

Core Knowledge is based on the premise that people need a common base of knowledge to function well in a democratic society, and that schools are responsible for providing this base to every student. According to the developers, having a common base of knowledge allows individuals to participate fully in society (e.g., by understanding news reports, or comprehending issues in an election). The developers also believe that it is particularly important for children from disadvantaged backgrounds to gain this core knowledge in school, because their exposure to learning opportunities outside of the classroom may be limited. Core Knowledge is grounded in research on learning which shows that individuals gain knowledge by "attaching" new informa-

tion to what they already know. Children who lack certain knowledge when they enter school are at risk of falling further behind their classmates as they progress through school. One goal of Core Knowledge, therefore, is to narrow the gap between children from different backgrounds by providing all students with the same "mental velcro" upon which to attach new knowledge.

According to the developers, providing a core of grade-level content in every school has the added benefit of ensuring that children who transfer in and out of Core Knowledge schools will be taught the same material in their new school. Without this core content, children who are frequently transferred face gaps in their knowledge that may set them behind their new classmates permanently. Typically, children from disadvantaged

backgrounds are more likely to transfer frequently, which makes Core Knowledge all the more important for this population of students.

The centerpiece of the approach is the *Core Knowledge Sequence*, a 200-page outline of the specific content that should be taught in each subject, each year, from kindergarten through eighth grade. The *Sequence* covers language arts (or English in grades six through eight), world history and geography, American history and geography, visual arts, music, science, and mathematics. Although the *Sequence* details *what* content should be taught, it does not specify *how* content should be taught. Instructional strategies are left up to individual teachers.

Core Knowledge is supported by the Core Knowledge Foundation, an independent, non-profit organization established in 1986. The Foundation's primary program, the *Core Knowledge Sequence*, was first used in schools in 1990. Core Knowledge is now used in over 750 schools in 43 states and the District of Columbia.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. Of the seven studies on Core Knowledge available, all conducted by independent researchers, three focused both on implementation and student achievement outcomes, one examined student achievement only, and three examined implementation only. Three of the four studies examining student outcomes were considered sufficiently rigorous to report here. The implementation research includes two case studies describing schools that use Core Knowledge.

Results from a national evaluation of this approach are expected in 1999. However, all three of the rigorous studies that are currently available report student outcomes for Maryland schools only.

Effects on Students. Overall, there is promising evidence of positive student achievement effects

in elementary schools. After one year of implementation, Core Knowledge students tended to have greater gains than students in matched comparison schools in reading comprehension and math concepts on the Comprehensive Test of Basic Skills. In reading, students in four of five Core Knowledge schools showed greater gains than those in comparison schools. In the remaining school, implementation of Core Knowledge was poor, and students showed a decrease in performance compared to a control school. For mathematics, in one case, students at a Core Knowledge school showed greater gains than control students; in three cases, gains were similar. At the poor implementation site, math scores declined significantly in comparison to a control school.

Using the same sample, comparisons between control and Core Knowledge schools on the Maryland School Performance Assessment Program (MSPAP) assessment were also examined. Findings were consistent for the first- and third-year evaluations. Students in five Maryland Core Knowledge schools had significantly higher gains in all subjects except science for fifth graders compared to control schools. Science, which was not emphasized by teachers in Core Knowledge schools, was the only tested subject for which Core Knowledge schools did not perform as well as the comparison schools.

A third study showed a positive trend for Core Knowledge students on the Iowa Test of Basic Skills. However, the difference between Core Knowledge students and comparison students was only significant on one subtest, language, in one year. Core Knowledge students did not perform as well on a writing exercise, compared to students in similar schools.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. There are no specific requirements for increased staff. However, because the approach emphasizes music and art, schools that

do not have music or art teachers may wish to hire them.

The developers recommend that teachers have common planning time to implement Core Knowledge. Because the material that is taught in each grade builds directly upon what was taught the prior year, teachers need to work together across grade levels to ensure that what they are teaching flows from one year to the next. Additionally, teachers within the same grade need to ensure that they are consistent in what they teach so that all students are given the same foundation.

Curriculum and Instruction. The *Core Knowledge Sequence* provides a curriculum framework that specifies the content schools are required to cover in each grade. Core Knowledge does not, however, specify which instructional strategies or materials should be used. Sample lesson plans, developed by Core Knowledge teachers around the curriculum, are available through the Core Knowledge Web site.

As described previously, the *Core Knowledge Sequence* covers language arts (or English in grades six through eight), world history and geography, American history and geography, visual arts, music, science, and mathematics; it does not cover physical education, health, or foreign languages. Each subject is taught from kindergarten through eighth grade so that students have a base of information on which to build. (A pre-K curriculum also is available.) The *Sequence* is very specific: the kindergarten poetry section, for example, lists 37 "Mother Goose and other traditional poems" (e.g., *London Bridge Is Falling Down*) and 11 "other poems" (e.g., A.A. Milne, *The More It Snows*) that are to be covered; the fiction section specifies 18 stories, four Aesop's fables, two American legends and "tall" tales, and two literary terms. The *Sequence* is not an exhaustive list, however, and the developers encourage teachers to supplement listed readings with additional content.

The *Core Knowledge Sequence* is designed to take 50 percent of total instructional time, with schools using the remaining time to cover topics required by state and local standards, such as state and local history and geography. According to the developers, however, in practice, most schools find that the initial years of implementation require spending more time on the *Core Knowledge Sequence*. Over time however, schools work to align the *Core Knowledge Sequence* with state and local standards, leaving more time for supplemental work.

Supplies and Materials. Core Knowledge does not provide or specify the instructional materials that should be used. Instead, the approach is designed so that schools can build on existing supplies and materials. According to the developers, however, schools typically do not have enough existing materials to teach the Core Knowledge content properly, and have to purchase additional materials for their classrooms and libraries. Most often, schools have to purchase books or maps.

Core Knowledge produces optional materials schools can purchase. For example, compact discs are available for pre-K through eighth grade from the Core Music Collection (the kindergarten collection includes *Classics for Kids*, *Peter and the Wolf*, and *The Best of Grieg*), as are Core Classics books (such as *Robinson Crusoe* or *Gulliver's Travels*).

The *Core Knowledge Sequence*, described above, is an essential supply for all teachers. In addition to the *Sequence*, the Core Knowledge Foundation produces a series of books for parents and teachers called *What Your ... Grader Needs to Know* covering each grade level. These books provide an introduction to the knowledge outlined in the *Sequence*. The series also suggests related reading and resources for teachers to use in their classrooms.

Scheduling and Grouping. Core Knowledge recommends that students be taught in whole groups; however, many schools also assign individual and

group projects to students. There are no guidelines for class size; developers assume that schools will maintain their current class sizes (i.e., between 18 and 24 students). There are no specific requirements for scheduling classes or school days.

Monitoring Student Progress. Currently, there are no guidelines for monitoring student progress or performance. According to the developers, Core Knowledge is developing tests to be administered by teachers to assess the full *Core Knowledge Sequence*. These assessments should be available in 1999.

Family and Community Involvement. Although there are no explicit requirements for involving family and community, one study found that strong family and community support facilitated successful implementation in a number of schools. Some teachers send outlines of the material that they are going to cover each month to parents, so they will feel more informed about their child's education. Some schools involve parents by requesting their assistance in locating resources to use in the classroom. (Involving parents in this way also reduces the time that teachers have to spend finding information and resources.)

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. The emphasis of Core Knowledge professional development is to enhance teachers' knowledge of the subjects they teach. Therefore, Core Knowledge encourages teachers to enroll in college courses in their field. Core Knowledge also encourages schools to take advantage of resources in the community, such as having a local physician give a lecture to teachers on the circulatory and lymphatic systems.

The Core Knowledge Foundation offers workshops, conducted by trained teachers or administrators from Core Knowledge schools. In larger districts, there may be an approach facilitator who is encouraged to attend these workshops. The

developers offer a half-day overview workshop to introduce the approach. This may be followed by *Getting Started*, a one-and-a-half day workshop to familiarize teachers with the topics taught at all grade levels. Topics in this workshop include comparing what is currently taught to what is taught in the *Core Knowledge Sequence*, developing a schoolwide plan for implementation, learning how to align Core Knowledge content with district and state requirements, developing a monthly planning guide, finding time to plan, locating resources, and involving parents and community members.

A three-day *Developing Core Knowledge Units* workshop for teachers covers the process of writing Core Knowledge units, focusing on: integrating concepts, content, and skills; developing background knowledge; selecting resources; developing effective instructional procedures and activities to meet objectives; and identifying assessment methods.

The developers visit the schools to provide technical assistance. The number of visits, specified in a contract with the school, is typically three to five per year.

Other resources include an annual national conference and regional technical assistance centers. An Internet discussion group called Core-Net also provides a forum for Core Knowledge teachers and parents to communicate with each other. Participants can share lesson plans and units, ask or answer questions, or discuss how Core Knowledge is working in their schools. Finally, the Core Knowledge Web site provides sample lesson plans, research findings, and articles from the Core Knowledge newsletter, *Common Knowledge*.

Implementation Requirements and Schools' Experiences. Schools interested in adopting the Core Knowledge approach should contact the Core Knowledge Foundation to obtain informational materials. The method by which schools arrive at the decision to adopt Core Knowledge varies from school to school, but the developer

recommends that the decision be a joint effort between administrators and instructional staff. After deciding to become a Core Knowledge school, all instructional staff may attend an optional Core Knowledge Overview workshop, generally held at the school, which describes the background, results, and benefits of Core Knowledge, and what a school must do to become involved. The developer requires schools to submit a plan for implementing the program, including a schedule of implementation goals.

A review of four studies addressing implementation suggests that, although some teachers experienced initial reservations about using the approach (some were afraid that they did not know the new content well enough to teach it), most seemed energized by the opportunity to enhance their own knowledge and thereby increase the knowledge of their students. Specifically, teachers noted increased cooperation among colleagues. For example, as a result of teaching the same content, teachers may be able to share resources in ways not previously established. According to the developers, full implementation has been shown to be possible in three years.

Findings from these studies also suggest that teachers new to a Core Knowledge school may have difficulty, both because staff development time and funding typically decrease over time, and because departing teachers do not always leave their lesson plans. Teachers spend approximately four hours per week developing their lessons; this time commitment, however, decreases after several years. One common concern voiced by teachers is the difficulty of finding age-appropriate materials for their students.

In terms of covering the Core Knowledge content, one study found that, although instructional style varied from class to class, teachers were covering the same content. Studies show that teachers in first and second grade cover a higher percentage of the core content. One reason for this may be that, in higher grades, the district requirements are stricter, leaving less time for the Core

content. In one study, teachers in five Core Knowledge schools reported that they were spending, on average, 53 percent of total instructional time covering the Core content, close to the 50 percent that the developers recommend. However, one study found that, in the first year, it was difficult to teach all of the Core Knowledge content because of conflicts with existing district requirements.

COSTS

The first-year cost of adopting Core Knowledge is \$56,000. This cost covers professional development, including staff release time; materials; and a membership fee.

The cost of implementing Core Knowledge varies greatly from school to school. There are a few nominal costs that each school must pay, but the more significant expenses depend on the amount of additional resources and materials that must be purchased to supplement the materials currently available at the school.

Each school pays a small fee to become a member of the Core Knowledge Network. A one-year membership costs \$15; a two-year membership costs \$25. In addition, every teacher in the school must have a personal copy of the *Core Knowledge Sequence*, which costs \$25 per copy. Many schools also purchase the series *What Your... Grader Needs to Know*. These books, however, are not required (and it is not necessary for teachers to have personal copies).

Schools also may pay for optional workshops. The first, an overview of Core Knowledge, costs \$500, regardless of the number of participants. The other workshops vary in price, depending upon how many teachers attend: for up to 25 teachers, the price is \$750 per day; for 25 to 50 teachers, the price is \$1,000 per day; and for more than 50, the price is \$1,250 per day. As described above, the first workshop is one and a half days and the second workshop is three days long. In addition to the price of the workshops, when

schools sign up for the overview workshop, they pay a one-time fee of \$50 per person, which covers the materials used in all the workshops. Schools must cover travel, lodging, and meals for the workshop presenters as well as release time for teachers. Schools contract with the developers for technical assistance visits; on average, schools spend \$5,000 for these visits.

The primary cost of implementing Core Knowledge is for additional instructional materials, such as books, maps, and videotapes. The developers estimate that many schools will have to pay over \$10,000 to purchase sufficient materials to teach the *Core Knowledge Sequence*. This is not a one-time expense; schools will have to continue to budget for additional materials or to replace materials that have worn out.

One implementation study of five sites found that most of the schools obtained foundation start-up grants that allowed them to purchase materials and to send teachers to conferences and to visit other Core Knowledge schools. This study also found

that teachers typically were not given paid time to prepare their lessons before implementing Core Knowledge; however, many schools did give teachers time during the school year (one hour per week, for example) to work in teams.

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DIFFERENT WAYS OF KNOWING

Evidence of positive effects on student achievement	●
Year introduced in schools	1989
Number of schools	412
Support developer provides schools	●
First-year costs	
with new staff	\$84,000
with current staff reassigned	No change

● = Strong ● = Promising ◐ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The goals of Different Ways of Knowing are to raise academic achievement and improve students' attitude toward school. The developer advocates building on the "multiple intelligences" of students, to develop their skills in various domains (e.g., logic and mathematics, language, social skills, and artistic skills). According to the developer, the approach is built around a variety of research bases, including: cognitive research, the effects of early and sustained intervention, and research on motivation and classroom environments. In addition, the approach is based on research that supports using thematic, integrated instruction and incorporating artistic experiences. The approach is designed to serve students in kindergarten through seventh grade.

Different Ways of Knowing is an approach that attempts to combine three elements—a philosophy of education, a curriculum, and professional development activities. The education philosophy emphasizes positive expectations for students, thematic and interdisciplinary instruction, active student participation, early intervention, and parent involvement. The curriculum, which is organized around history and social studies, seeks to integrate the arts, literature, science, math, and technology. Professional development activities, involving a three-year course of study for instructional staff, are designed to foster professional growth and community building.

Different Ways of Knowing was developed in 1989 by the Galef Institute, a nonprofit educational organization dedicated to comprehensive

school reform. The developer field-tested Different Ways of Knowing in more than 500 classrooms over four years; the approach now is used in more than 412 schools in California, Florida, Kentucky, Michigan, Mississippi, Pennsylvania, and Washington.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. The research base for Different Ways of Knowing is promising. Four studies on student achievement outcomes were reviewed for this report; all were considered sufficiently rigorous to report findings here. The studies included a district study spanning several years, a study of four schools, analysis of data from 84 Kentucky schools, and a set of three subsidiaries in Kentucky. All of the studies were conducted independently (although the developer helped researchers secure funding in several cases). Most of the studies have detailed information on implementation as well. More than 89 elementary schools were examined in these studies, including schools in a variety of locations.

Effects on Students. The four rigorous studies with data on student achievement show evidence of mixed effects for the approach. The strongest gains were in language arts, where students gained 8 percentile points for every year that the school used the approach. Reading achievement improved in Different Ways of Knowing schools according to one study, and declined slightly according to another study. Demonstration schools, known to be especially well implemented, show higher reading score gains than other schools. Mathematics achievement improved in Different Ways of Knowing schools, especially demonstration schools, according to three studies. Different Ways of Knowing students score higher (on both pre- and post-tests) in social studies than comparison students, but the advantage might not be due to the approach; except in the study on demonstration schools, comparison students gained more.

Finally, a study of schools with Title I schoolwide funds found that schools in which over 75 percent of teachers used Different Ways of Knowing had higher average gains than those in which a smaller percentage of teachers used the approach. However, when all types of schools were examined, schools in which 75 percent of teacher used the approach had gains similar to those of schools in which a smaller percentage of teachers used the approach.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Different Ways of Knowing promotes instructional practices that should require little change in school organization or staffing. However, support from district and school administrators is considered essential, to ensure that there are sufficient funds for professional development and to ensure that teachers have flexibility for planning and collaboration with other teachers. Schools are encouraged to have a liaison at the school or in the district central office to work with Different Ways of Knowing staff. The developer prefers to work with several schools in a district, to ensure long-term, collaborative support from the district.

Curriculum and Instruction. At the heart of Different Ways of Knowing are instructional strategies that are designed to build on students' existing knowledge and skills and to promote interaction among students. Students are encouraged to engage in hands-on activities (e.g., interview people and conduct research projects). The developer provides teachers with a planning guide that includes content to be covered, based on standards of achievement; instructional strategies (e.g., ideas for group and individual learning activities); and resources for students (e.g., children's literature, reference documents, historical search guides for student research).

According to the developer, lessons are built around themes, integrating history and social studies with the visual and performing arts, lit-

erature, writing, mathematics, and science. The developer believes that infusing arts across all disciplines ensures that instruction is accessible to all students.

Supplies and Materials. The developer provides instructional staff with curriculum modules that are aligned with state standards in history and social studies. Teachers are encouraged to choose their own pathways through the curriculum modules, based on the needs of their students.

The developer also provides instructional staff with a variety of materials, including planning guides on interdisciplinary instruction and strategies for teaching at-risk students. In addition, the developer provides a library of thematically organized and culturally diverse children's literature and reference books; historical documents, maps, videos, and other related media; and literature detailing "best practices" in all subject areas.

Scheduling and Grouping. Different Ways of Knowing does not require a particular method of classroom grouping (e.g., homogeneous or heterogeneous), but the developer encourages schools to include students with special needs in the regular classroom.

Monitoring of Student Progress and Performance. Different Ways of Knowing advocates continuous monitoring of student performance. The developer believes that there are different ways for students to demonstrate their understanding, and encourages multiple methods of assessment, including demonstrations of student ability through written, oral, artistic, dramatic and physical expression, as well as through portfolios of student work.

Family and Community Involvement. Different Ways of Knowing emphasizes involvement of family and community. Teachers are encouraged to see their work in school as integrated with home and community activities. The curriculum guides teachers and students in classroom and community-based problem-solving, which are developed to help students see a clear link between

school, community, and future career opportunities. In addition, Different Ways of Knowing schools organize Parent Nights, where parents participate in hands-on activities to experience firsthand what and how their children are learning.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. The developer supports a wide range of school and district planning and training. Each school is matched with an interdisciplinary support team on the developer's staff, including teachers experienced in classroom implementation of the approach. The team, led by a Site Implementation Coach, facilitates all professional development, including on-site and online coaching. Coaches provide monthly site visits, which include demonstrations of instructional methods, observation and debriefing, support with classroom management, assessment, and other classroom strategies. Over time, schools are expected to develop internal capacity for these functions. Additional assistance is available as needed.

Other professional development activities include an annual three-day summer institute for instructional staff, administrators, parents, and community members. A variety of optional three- to four-day workshops offer training in the teaching strategies associated with Different Ways of Knowing. An interactive Web site (www.dwoknet.galef.org) also is available to help deliver coaching and assistance, as well as to allow educators to share information as they implement the approach.

Implementation Requirements and Schools' Experiences. Schools must agree to a number of conditions before becoming a Different Ways of Knowing school. Specifically, they must: (1) commit to working with Different Ways of Knowing for multiple years; (2) allocate time for professional development; (3) attempt to integrate reform initiatives, curriculum programs, and fam-

ily programs at the classroom level; (4) work to integrate the program's philosophy and practices into their reform plans; (5) build an evaluation plan; (6) design a process for sustaining and spreading successful practices; and (7) designate school community and district advisory teams to work closely with the developer and participating schools.

Coaches and site facilitators support the continual assessment and review of Different Ways of Knowing implementation. The developer works with schools and districts to tailor an evaluation and documentation plan to meet individual school needs. Developer involvement continues for three to five years and is geared to building a school's capacity to sustain the approach.

The research on implementation indicates that the approach does affect the instructional strategies of teachers. For example, one study showed that Different Ways of Knowing teachers tended to use more "student-centered" instruction (e.g., student-initiated discussion), integrate more than one subject in lessons, and employ more "hands-on" activities.

One study suggests that the approach is difficult to implement fully, however, finding that in 173 of 272 schools using Different Ways of Knowing in Kentucky, less than 75 percent of school staff were involved in implementing the approach.

COSTS

The first-year cost of adopting Different Ways of Knowing is \$84,000. This cost covers professional development, including staff release time, and other services provided by the developer.

The average fee for Different Ways of Knowing is \$35,000 per school for each year of the three-year implementation. Other expenses include release time for professional development (an average of three days in the summer and four days during the year) and teachers' time for curriculum planning, study groups, and on-site coaching sessions. Schools located outside regions with many Different Ways of Knowing schools should allow for additional travel costs. Any desired independent evaluation, additional leadership training, pre-service partnerships with local universities and colleges, or summer school support would add to program costs.

The developer works closely with schools and school systems to identify diverse funding sources and secure public as well as private funding sources.

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DIRECT INSTRUCTION

Evidence of positive effects on student achievement	●
Year introduced in schools	Late 1960s
Number of schools	150
Support developer provides schools	■
First-year costs	
with new staff	\$244,000
with current staff reassigned	\$194,000

● = Strong ■ = Promising ▒ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The primary goal of Direct Instruction is to increase student achievement through carefully focused instruction. In this approach, instruction involves identifying particular skills and showing students how to apply these skills in increasingly complex situations. The Direct Instruction model aims to provide intense, efficient lessons that will allow all children—even the lowest performing—to master academic skills.

Direct Instruction provides a model of instruction that emphasizes the use of carefully planned lessons, designed around a highly specified knowledge base and a well-defined set of skills for each subject. A central element of the theory underlying Direct Instruction is that clear instruction eliminates misinterpretations and can greatly improve and accelerate learning.

Direct Instruction grew from work on teacher-directed instruction begun by Siegfried Engelmann at the University of Illinois in the late 1960s and continued at the University of Oregon. There are currently several providers who contract with schools and districts on the implementation of this approach. The curriculum materials are published by Science Research Associates, a division of McGraw-Hill. Although the original focus was on reading, language, and math, the program has been expanded to include social and physical science, fact learning, and handwriting. The Direct Instruction model serves students in kindergarten through sixth grade in 150 schools and several thousand individual classrooms nationwide. It has been widely used among low-performing schools in high-poverty areas, but is marketed for all students.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. Direct Instruction has a lengthy and rich base of empirical research. Eighteen studies describing the student achievement effects of Direct Instruction were available for this profile, including two research syntheses; nine of these studies also reported information on implementation. Of these, all but four scored high in the ratings of research strength. Not only is there a great deal of strong research on this approach, but there are many studies with similar findings, which raises confidence in the results. Further, of the 14 studies that used rigorous methodologies, five were conducted by independent researchers.

There are minor weaknesses with the research on Direct Instruction that should also be noted. First, the outcome research has focused more on reading and math than the other subjects that constitute the Direct Instruction curricula. Second, a great deal of the Direct Instruction research is over 10 years old. Only seven of the 37 studies covered in a recent analysis of the research on Direct Instruction were done in the 1990s, and several date back to the 1970s.

Effects on Students. Overall, there is strong evidence that Direct Instruction has a positive effect on student achievement. Adams and Engelmann's analysis (1996) showed that 32 of the 34 studies qualifying for inclusion in their meta-analysis demonstrate that Direct Instruction has a positive effect on student achievement. Their review found that Direct Instruction is effective in improving overall achievement, as well as achievement in language, reading, mathematics, spelling, health, and science. Several other studies, moreover, confirm and reinforce these findings. Of those studies reviewed for this profile, seven support Direct Instruction's positive effect on reading, 11 on mathematics, nine on language, and four on affective behavior and social skills. Direct Instruction also appears to improve chances for later success (e.g., gradua-

tion rates, application and acceptance to college rates). Research also suggests that students who begin Direct Instruction with low IQs seem to progress at the same rate as students who begin Direct Instruction with higher IQs (i.e., the approach is effective for both high- and low-achieving students).

Two studies investigated the relationship between the level of implementation of Direct Instruction and student performance on standardized tests. Using the Direct Instruction Supervision Code (DISC), these studies found a positive relationship between teacher ratings (i.e., level of implementation in a classroom) and student performance on standardized achievement measures (e.g., the Comprehensive Test of Basic Skills reading assessment). However, the relationship varied depending on the component of the Direct Instruction approach being measured (e.g., pacing, format, correcting students).

Direct Instruction also appears to improve students affective behavior and social skills: self-esteem/concept, attitudes toward self and school, attribution of success or failure to self or outside, and sense of responsibility.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Direct Instruction makes limited organizational demands on schools. The most significant is a recommendation that all teachers of reading and English language arts be scheduled to teach that subject at the same time. This practice, which allows for cross-class grouping, also may be followed for other subject areas, depending on the implementation.

The developer encourages each school to have a peer coach (facilitator) to help instructional staff implement the program. Principals are expected to fulfill the scheduling requirements and monitor classroom activities. For multi-school implementations, districts are encouraged to delegate a project coordinator to serve as an accountability officer and administrative problem solver.

Curriculum and Instruction. The curriculum and methods of instruction are the most important aspects of Direct Instruction. Direct Instruction provides highly scripted and interactive lessons geared towards small, homogeneously grouped students. The reading, language arts, and math curricula can be used separately. Direct Instruction also covers science, social science, fact learning (cultural literacy), and handwriting.

Supplies and Materials. Schools must buy the required curriculum materials from the publisher. Teachers use "presentation books," spiral-bound lesson plans that enable highly scripted, rapid-paced instruction. Within these presentation books are instructions for monitoring and assessing student progress, and for providing immediate feedback to students. The model also offers materials designed specifically for older students who have not mastered basic skills.

Scheduling and Grouping. Students are grouped homogeneously for specific subjects. As some students may be weak in one subject and strong in another, the groups may be different for different subjects. Thus, some implementations encourage each major subject to be taught at a specific time to allow for cross-grouping.

Monitoring Student Progress and Performance. A placement test is used for initial assignment of students by performance level. The pace of instruction is set according to the performance level of each group. Since Direct Instruction relies so heavily on grouping students by achievement levels, frequent assessment of student progress is essential. According to the developer, teachers monitor student performance every five to 10 days, using such methods as calculating reading rates and error ratios. These data, as well as weekly grades, are used to regroup students according to level. Schools also continue to use state and locally mandated achievement tests.

Family and Community Involvement. Direct Instruction does not require family or community involvement. However, the developers recommend involving parents, by having parents use a

Parent and Child Home Practice Guide to work on their child's skills at home.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. Professional development and technical assistance, consisting of training and in-class coaching, are essential elements of Direct Instruction. The developer recommends one week of training in Direct Instruction methods prior to implementation. During the school year, at least four days per month of coaching, observation, and modeling are recommended. In addition, the developer recommends weekly one-hour inservice sessions during which teachers may learn and practice Direct Instruction techniques.

The quantity, quality, pace, and content of professional development vary widely, depending on the contractor. However, as a general rule, the first year of implementation emphasizes training in strategies for assessing and instructing students, a schoolwide discipline program, and a single academic subject or pair of related subjects (usually reading or reading and language arts, for example). During the second year, teachers might be trained in the remainder of the curriculum, as well as more diagnostic and instructional strategies. The third year's training might focus on mastering the basics of Direct Instruction and introducing techniques for "hard-to-teach students." According to the developer, local teachers should be trained to coach and supervise so that after a period of three to five years, schools can be self-sufficient.

Implementation Requirements and Schools' Experiences. Although not required, the developer recommends that teachers vote to adopt Direct Instruction and discontinue any programs that conflict with it. Implementation then follows the path described under *Professional Development and Technical Assistance*.

Two studies provide details on implementation of Direct Instruction in a single sample of inner-city

elementary schools at different points in time. In these case studies of implementation, the school began to implement Direct Instruction over the summer and had less than two months to prepare. Thus, teachers, upon arriving for the new school year, had the challenge of implementing an approach with which they were not familiar, based on only two days of training.

According to the research, initial resistance to Direct Instruction can be high. Teachers may dislike the highly structured approach of Direct Instruction and unannounced visits and "correction" given by Direct Instruction staff. However, according to interviews with teachers after one and two years of implementation, teachers gradually developed a more positive attitude toward the program, with many citing the positive results that they had seen in students (e.g., improved test scores, better attitudes). Although some teachers continued to espouse ideological differences with the program's highly-scripted philosophy, most had accepted the program. Studies suggest that the project manager (and/or implementation provider) has a large influence on the success of the approach.

COSTS

The first-year cost of adopting Direct Instruction is \$244,000. This cost covers professional development, including staff release time, materials, and additional staff. However, schools can reduce this cost to \$194,000 by reassigning a current staff member to serve as the facilitator.

An average school of 500 students and 20 to 25 teachers will incur costs for Direct Instruction for training and technical assistance, personnel, and materials. The developer estimates that technical assistance will cost \$65,000 a year for three to five years. This includes direct costs for faculty training at the start of and during the school year. It does not include the cost of faculty time devoted to training. Release time is needed for instructional staff who will eventually serve as coaches and trainers. This amounts to five days of pre-

implementation at the start of the school year for the entire faculty, plus at least one hour per week (or approximately 4.5 days per year) for each teacher. In addition, the developer requires schools to regularly submit data on student progress, which might require additional staff time. In addition, instructional materials, available from Science Research Associates, cost about \$125 per student, or \$62,500 for a school of 500 students.

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EXPEDITIONARY LEARNING OUTWARD BOUND

Evidence of positive effects on student achievement	●
Year introduced in schools	1992
Number of schools	65
Support developer provides schools	●
First-year costs	
with new staff	\$81,000
with current staff reassigned	No change

● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

Expeditionary Learning Outward Bound is a comprehensive school design that aims to transform curriculum, instruction, assessment, and school culture and organization. It is based on two central ideas: that students learn better by doing than by listening; and that developing character, high expectations, and a sense of community is as important as developing academic skills and knowledge.

Expeditionary Learning involves five core practices. The first is *learning expeditions*, long-term, multidisciplinary projects that combine academic, service, and physical elements. The second practice is *reflection and critique*, which involves teachers working with each other to examine their own instruction and students' work.

Third, the *school culture* emphasizes community and collaboration, high expectations for all students, service, and diversity. Fourth, the *school structure* is reorganized to share decision making among teachers and administrators and to develop relationships among staff, students, parents, and the community. The fifth practice is *school review*, or assessment of student performance and degree of implementation as measured against benchmarks provided by the developer.

Expeditionary Learning was established in 1992 by Outward Bound USA. The approach is one of several sponsored by New American Schools, a national initiative to develop replicable school-wide reform programs. Sixty-five schools in 13 states currently use the approach, which was designed for grades K-12.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. Despite the fact that this is a relatively new approach, Expeditionary Learning already has amassed a promising research base on student achievement effects. Three studies, one of which was conducted by an independent researcher, were reviewed. All three were sufficiently rigorous to report their findings here.

Six studies, conducted by independent researchers, evaluate implementation of the Expeditionary Learning schools sponsored by New American Schools. These studies provide information about which elements of the approach were easier or harder to implement.

Effects on Students. The research results indicate that Expeditionary Learning can help to improve student achievement. Students tend to perform well compared to state and district averages on standardized tests, such as the Iowa Test of Basic Skills and the Georgia Curriculum-Based Assessment Test. Positive results have been found across subjects (e.g., reading, writing, math, science, and social studies).

One study found significant two-year gains in standardized test scores of students in grades five through eight in reading and mathematics. The other two studies found that students in Expeditionary Learning schools improved on standardized and state tests compared to district and state averages in reading, mathematics, science, and social studies.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Expeditionary Learning requires one major organizational change: a transformation to shared decision making. The approach requires teachers, parents, and other community members to be involved in the school leadership and decision-making process. No major changes are required in staffing or administrative support.

Curriculum and Instruction. Expeditionary Learning requires significant changes to instruction. A defining component of the approach is that students engage in learning expeditions, extended studies that focus on a single theme, while incorporating instruction in different subject areas. Expeditions typically involve service and fieldwork and culminate in student presentations or performances to families and community members.

Instructional staff are expected to align expedition topics and goals with state and district standards and curriculum guidelines.

Supplies and Materials. Expeditionary Learning does not require or provide specific instructional materials. However, the developer provides materials to help school staff implement the approach. Some of the materials address theoretical and philosophical topics; others provide models and practical information for developing expeditions.

Scheduling and Grouping. Schools adopting Expeditionary Learning are asked to make significant changes to the daily schedule. First, schools eliminate the traditional 50-minute, single-subject period; instead, they devise a schedule that accommodates learning expeditions (which may average ten to 16 weeks). Second, schools rearrange the schedule to provide instructional staff with weekly common planning time.

Expeditionary Learning schools do not group students according to performance level; rather, the developer promotes heterogeneous grouping. For some learning expeditions, students from different grades are grouped together. Expeditionary Learning schools assign instructional staff to the same group of students for at least two years, which, according to the developers, helps build trust and a sense of community among teachers and students.

Monitoring of Student Progress and Performance. Expeditionary Learning attempts to use "real-world performance" as its primary assess-

ment measure (e.g., demonstrations or portfolios of student work). Instructional staff are encouraged to reflect regularly on student progress, and also on what student achievement says about the instructional practices of the school. Students also are subject to the regular state and district standardized assessments.

Expeditionary Learning schools are required to conduct an annual self-review that examines the link between school instructional activities and student performance, and measures school practices against core practice benchmarks.

Family and Community Involvement. Expeditionary Learning encourages parent and community involvement, especially in the learning expeditions. Community members and parents are encouraged to contribute their own expertise and talents and to attend student presentations at the end of each expedition.

The developer also encourages schools to work with local community agencies and businesses to provide opportunities for student learning (e.g., internships).

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. The developer considers professional development integral to successful implementation. Instructional staff and school leaders receive at least 15 days of technical assistance per year. First, Expeditionary Learning staff or experienced Expeditionary Learning instructors provide schools with on-site professional development. Activities include helping teachers develop learning expeditions, aligning the expeditions with state standards, coaching teachers in the classroom, and providing assistance related to assessment.

The developer requires school leaders to attend a two-day leadership institute, designed to help schools assess their readiness to implement Expeditionary Learning and to address issues of interest to school leaders. In addition, participants

learn about modifying the school schedule, assigning planning time for teachers, and grouping students.

Professional development designed for instructional staff includes a five-day summer institute at the school that focuses on designing learning expeditions. In addition, faculty attend mid-year mini-institutes (lasting two to three days) during which they plan their expeditions for the spring semester. Throughout the school year, half-day and full-day workshops are provided on topics selected by school staff.

The developer provides other national professional development activities, to which schools are encouraged to send one-quarter to one-third of their faculty each year. First, the developer provides week-long summits during the summer, designed to demonstrate exemplary learning expeditions, to provide immersion in specific content areas, and to give staff an opportunity to work closely with Expeditionary Learning teachers from other schools. Instructional staff also can participate in Outward Bound courses for educators. The developer offers several opportunities for faculty and administrators to learn from and share with Expeditionary Learning participants, including a national leadership conference, a national conference for teachers and administrators, and visits to other Expeditionary Learning schools.

Implementation Requirements and Schools' Experiences. The developer stipulates three requirements for schools interested in adopting the approach. First, the school must demonstrate a high level of support from faculty and administration. At least 80 percent of the faculty and all of the school leadership must endorse adoption of the design after it has been presented to and discussed by the full faculty. Second, the school must commit to providing 15 to 20 days of professional development time for each classroom instructor and to budgeting for at least three hours of common team planning time per week. Third, schools should demonstrate that they have sufficient fi-

nancial resources to implement and sustain the program.

Research on implementation of Expeditionary Learning has found that schools using the approach share several implementation strengths. The training, from introduction of the approach to training all staff, is a strength; teachers felt confident and comfortable with the instructional strategies. Teachers worked well together in some schools, and parents became more involved.

In the schools studied, it was found that some components of Expeditionary Learning were more difficult to implement than others. Although student portfolios were used, there was little evidence of teachers or students reflecting on content, and some inconsistency in evaluating the portfolios. The involvement of instructional staff in school governance was inconsistent across the Expeditionary Learning schools.

One study confirmed that full implementation is possible after several years. In one site, learning expeditions and portfolio-based assessment were common, teachers taught and planned collaboratively, students worked cooperatively on projects, the 45-minute class period was eliminated while students were on expeditions, and students were grouped heterogeneously in reading and math. Parents and community members were involved, serving on committees and attending student exhibitions.

The study found that strong implementation was supported by a clear understanding of the approach *before* it was adopted, strong administrative support, and sufficient professional development time. Successful sites were found to be those already considered "alternative" before adopting the approach, and sites that had additional funding, which allowed schools to offer professional development activities to more staff.

The service component was found to be more difficult to implement than others, because teachers reported that they did not have enough time for this piece.

COSTS

The first-year cost of adopting Expeditionary Learning is \$81,000. This cost covers professional development, including the developer's estimate for teacher release time; and materials.

The cost of implementing Expeditionary Learning varies with the size of the school and the number of participating schools in the district. In the first year, a school with 25 faculty members and 500 students would pay \$53,750 (\$2,150 per faculty member). Schools with more than 25 faculty members would pay \$53,750 for the first 25 individuals, plus \$1,150 for each additional person; for example, a school with 40 faculty members would pay \$71,000 ($\$53,750 + \$1,150 \times 15$). A smaller school would subtract \$1,150 from \$53,750 for every faculty member fewer than 25; for example, a school with 15 faculty members would pay \$42,250 ($\$53,750 - \$1,150 \times 10$). These figures assume that there are three or four Expeditionary Learning schools in a district. Costs are higher with fewer schools, but exact figures were not available.

The above fee includes at least 15 days per year of professional development for every faculty member, including full-faculty summer institutes and mid-year mini-sabbaticals, as well as professional development materials. The fee allows one-quarter of the faculty to attend Outward Bound courses or summits, and one-quarter to attend the national conference or seminars at demonstration sites. (The developer reports that additional faculty may attend at no additional cost, if space allows.) The fee also covers attendance of the principal and one member of the school leadership team at the annual leadership conference, as well as at least 30 days of technical assistance, at least 20 of which are provided on-site. Travel costs, release time, and other related expenses for all events above are not included.

In the second year, the costs are estimated to be the same as the first year. According to the devel-

oper, if schools are making good progress in implementing the approach, the cost will decrease by 20 percent in the third year, another 20 percent in the fourth year, and another 20 percent in the fifth year.

In addition to fees paid to the developer, the developer estimates that schools will have to pay \$1,000 to \$1,200 per faculty member per year for travel, stipends for teachers taking courses, substitutes, and expedition costs.

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THE FOXFIRE FUND

Evidence of positive effects on student achievement	?
Year introduced in schools	1966
Number of schools	Not available
Support developer provides schools	■
First-year costs	
with new staff	\$65,000
with current staff reassigned	No change
● = Strong ◐ = Promising ■ = Marginal ○ = Mixed, Weak ? = No Research	

OVERVIEW

The Foxfire Fund promotes the idea of active, learner-centered, community-focused education. The Foxfire "Core Practices" are expected to guide instructional methods, materials, and strategies. The developer encourages teachers to involve students in selecting, planning, and directing classroom activities. Teachers also are encouraged to connect classroom activities to the community—that is, to create what the developer refers to as "the community as a learning laboratory."

As a reform approach, Foxfire has traditionally worked with individual teachers, although it has recently been adapted to work as a schoolwide improvement model. Schools interested in developing a schoolwide "Foxfire-Affiliated Alli-

ance" receive guidelines and other materials to assist with implementation.

The Foxfire approach was developed in 1966 by Eliot Wigginton, a high school English teacher who was seeking a vehicle to teach basic high school English skills. He devised a project, grounded in the theories of John Dewey and research on effective instruction, in which students interviewed community members who had special expertise or historical perspectives and wrote about what they learned. This project led to the publication of the *Foxfire Magazine* and a series of books on Appalachian life and folkways. The Foxfire approach evolved as other teachers attempted to replicate the project's success, and has since expanded to be more comprehensive and reach across grade levels and

course content. Currently, teachers in 38 states use the approach.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. No rigorous studies on Foxfire's effects on student achievement could be found. However, some student test data are collected and made publicly available by the developer. Three studies analyzing implementation of Foxfire were reviewed.

Effects on Students. No studies analyze the effects of Foxfire on student achievement.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Foxfire does not require any changes in organization or staffing. Teachers can implement the approach on their own; however, the developer reports that administrative support is required for successful implementation.

Curriculum and Instruction. The developer advocates that instructional staff encourage students to play an active role in determining how to reach state and local standards. In addition, teachers are encouraged to guide students to link learning to the community.

Eleven Core Practices provide a framework for thinking about and assessing classroom practice:

- 1) classroom work is infused with student choice and design;
- 2) the teacher's role is collaborator and facilitator;
- 3) the academic integrity of the work is clear;
- 4) the work is characterized by active learning;
- 5) emphasis is placed on small -group work, peer teaching, and inclusion of all students;
- 6) connections between class work and the community are clear;
- 7) there is an audience beyond the teacher for student work;
- 8) new learning includes previously acquired skills and understandings;
- 9) learning experiences encourage creative thought and action;
- 10) reflection occurs at key points throughout the work; and
- 11) the work includes rigorous, ongoing assessment.

Supplies and Materials. The developer does not provide or require specific supplies or materials, but reports that activities sometimes require materials beyond those used in traditional classrooms. In this case, the developer encourages teachers to work with students to identify means to raise the funds to acquire the necessary materials.

Scheduling and Grouping. Foxfire does not require any specific scheduling arrangements. The developer encourages a variety of grouping strategies including individual, whole-class, and small-group work. According to the developer, much of the work ends up being performed in small groups.

Monitoring Student Progress and Performance. The developer believes that monitoring of student progress is essential. Teachers are encouraged to involve students in developing performance evaluations to ensure that their activities are meeting curriculum expectations. The developer encourages alternative assessment of skills and knowledge in addition to standardized achievement tests.

Family and Community Involvement. The Foxfire approach emphasizes the importance of connecting the classroom curriculum to the community. Teachers are encouraged to help students identify ways they can learn required skills and content by seeking information and resources from within the community.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. The Foxfire Fund offers four types of professional development. First, the developer produces materials to help instructional staff explain their practice to parents and colleagues and expand the effectiveness of Foxfire through reflective planning activities. Second, Foxfire provides ongoing support, including membership in national and regional networks, participation in informal affiliations, national conferences and meetings, and on-line connections among teachers with similar interests. Third, Foxfire produces publications for instructional staff, including: *The Active Learner: A Foxfire Journal for Teachers*; a quarterly newsletter; the *Foxfire Papers* (brief position papers designed to clarify specific issues); the *Teacher Reader* (collections of current research, theory, and practice regarding each core practice); and *The Core Practices: Discussions and Implications*.

Finally, the developer offers a series of staff training programs. The first is an introductory presentation called "Taste of Foxfire." This session, which lasts from two hours to two days, is required for schools interested in implementing the schoolwide approach.

Two courses ("Level One" and "Level Two") compose the bulk of the training. Level One, which consists of 50 hours of training plus follow-up activities, is offered in a variety of sites around the country (through universities, regional networks, in collaboration with other school reform groups, and through school districts or individual schools). Its primary goal is to provide teachers with the opportunity to rethink their existing perceptions of the relationships among teachers, students, and curriculum, while they plan for change in their classrooms. Follow-up activities, tailored to instructors' needs, include training in skills required to implement the approach (e.g., assessing student learning) and collective resolution of implementation challenges. Level Two is

typically taken at the conclusion of the first year of implementation, and also is held at a variety of sites around the country. The 25-hour course focuses on deepening and extending participants' ability to implement Foxfire.

The developer also offers three-day summer seminars, held at the Foxfire Center in Mountain City, Georgia, that focus on topics related to the Core Practices. Finally, special programs may be developed to support the work of teams of teachers within a school. Often, these programs are designed to support the development of integrated curricula that use the community as a learning laboratory. The length and content of these programs are determined collaboratively with school staff.

Implementation Requirements and Schools' Experiences. Foxfire's work within a school, whether with a team or the entire staff, requires administrator support. Therefore, administrator participation in training activities is encouraged. Long-term work may be done with teams or clusters, based on the needs identified by participants and the contract negotiated with the school. It is not required that schools become affiliated with Foxfire in order to purchase services. However, a school interested in becoming part of the Foxfire-Affiliated Alliance must meet a number of conditions:

- 1) The school has a clearly-articulated mission and philosophy that is compatible with the Core Practices.
- 2) Teachers within the school use the approach by choice, rather than mandate.
- 3) At least 60 percent of faculty members have completed the Level One course and currently use the approach.
- 4) The school administration supports becoming a member of the Alliance.
- 5) The school demonstrates respect for diversity of approaches and strategies.

- 6) The school staff engages in ongoing reflection and evaluation of the school's use of the Core Practices.
- 7) Teaching and learning opportunities and experiences grow out of the stated philosophical foundation.
- 8) The Alliance has the capacity to arrange Level One training for new teachers.

If the whole-school approach is not followed, implementation of Foxfire is left to the initiative of individual teachers. While training and support are available from The Foxfire Fund, teachers have to implement the approach by themselves in their own classrooms.

Three implementation studies of Foxfire were reviewed. These studies focus on barriers to implementing Foxfire in order to resolve such issues, and therefore highlight problems rather than successes. One found that, of 12 teachers who had recently completed the Level One course, all but one had incorporated strategies learned in the course into their classes. This study found that one of the most difficult elements to implement was designing activities to provide more student decision making or choices.

The studies identified several conditions that supported the implementation of Foxfire, including: having a supportive principal and superintendent; establishing professional development follow-up; instituting a flexible district curriculum; and having other Foxfire teachers in the classroom. Barriers to implementation also were identified, including: insufficient time to implement the approach; lack of autonomy in the classroom due to state or local mandates; resistance toward student empowerment; teacher evaluation systems that reward teachers for keeping students "on task"; and an open school design that inhibits group work.

COSTS

The first-year cost for implementing Foxfire is \$65,000. This includes average costs for the "Taste of Foxfire" presentation, Level One training, teacher

release time (approximately 7.5 days) for professional development, and Foxfire membership.

Professional development represents the bulk of the cost of implementing Foxfire. The introductory "Taste of Foxfire" presentation costs between \$50 and \$600 (excluding travel), depending on the length and the content of the workshop. The Level One course costs \$350 to \$650 per teacher, depending on whether graduate college credit is awarded. The developer estimates that Level One training for an entire school—including costs of training, materials, and follow-up visits—will cost between \$12,000 and \$14,000 for a school of 500 students. The Level Two course costs \$7,000 to \$9,000 for a whole school (\$350 to \$450 per teacher).

Summer seminars range in price based on the number of days and materials required. For three-day courses with required materials, including housing at the Foxfire Center and two meals each day, participants would expect to pay \$300. The content and fees for special programs designed to meet the needs of individual schools or teams of teachers are negotiated on an individual basis.

National membership is \$40 per year and includes a subscription to *The Active Learner*. (An annual journal subscription alone would cost \$20.) Regional networks set their own membership fees, ranging from \$5 to \$45 per year. Publications and materials cost \$25 for the *Teacher Reader* series; support materials begin at \$6.50 for reflective planning outlines.

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HIGH SCHOOLS THAT WORK

Evidence of positive effects on student achievement	●
Year introduced in schools	1987
Number of schools	860
Support developer provides schools	●
First-year costs	
with new staff	\$48,000
with current staff reassigned	No change
● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research	

OVERVIEW

High Schools That Work provides a set of strategies designed to raise the academic achievement of career-bound high school students by combining the content of traditional college preparatory studies (e.g., English, mathematics, science) with vocational studies. The developers specify the following key practices:

- high expectations for student learning;
- rigorous vocational courses;
- more required academic courses;
- learning in work environments;
- collaboration among academic and vocational teachers;

- an individualized advising system;
- active engagement of students' interest;
- extra help outside of school and in the summer; and
- use of assessment and evaluation data to improve students' learning.

High Schools That Work is an initiative of the Southern Regional Education Board. The approach has grown from a pilot program, implemented in 28 schools in 13 states in 1987, to 860 sites in 22 states as of July 1998. The developers plan to add 100 to 150 sites in the 1998-99 school year, and a similar number in 1999-2000.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. Overall, the research base on High Schools That Work is strong. Of the ten studies that report results on student achievement, four use sufficiently rigorous methodologies to report their findings here. The remaining studies focus primarily on implementation of the approach. Effects were studied in a large number of schools, including original and replication sites, and urban and rural schools. The number and variety of the schools that have been studied contributes to the strength of the research base.

A weakness of the research base is that few studies use matched control groups. Much of the research compares schools that are new to High Schools That Work with schools that have been using the approach for some time. Other studies focus on case studies of successful schools, those in which students made especially strong progress. This methodology identifies more-successful and less-successful High Schools That Work schools; it does not provide evidence that the approach itself improves learning. Another problem is that there are few independent evaluations. All four of the rigorous studies reported here were conducted by or for the developers.

Effects on Students. The available research shows positive effects on students. Studies indicate that High Schools That Work improves student performance on the National Assessment of Educational Progress (NAEP) and a test developed by High Schools That Work based on NAEP. Studies of effects also show that High Schools That Work students, including vocational students, take more academic courses (especially mathematics and science) than students at the same schools did before the approach was implemented. However, not all students take the number of academic courses required in the approach (described under *Curriculum and Instruction*).

The positive results seem stable across a variety of schools. Specifically, effects seem consistent

across urban and rural schools and seem to persist for schools that were not in the original set of pilot schools. This suggests that High Schools That Work has positive effects, and those effects can be replicated.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. The developer requires schools to establish a school advisory council composed of students, parents, teachers, community members, and business leaders to coordinate implementation of High Schools That Work. The school principal and a designated central-office administrator play a major role in implementation, either serving on or chairing the school advisory council. In addition, many schools establish vocation-based advisory councils composed mainly of local business members.

Curriculum and Instruction. High Schools That Work encourages substantial changes in the curriculum to provide a more challenging high school experience for students who are not planning to attend college. These changes include:

- setting high standards based on the National Assessment of Educational Progress;
- enrolling career-bound students in college-bound academic courses; and
- dropping basic courses (e.g., "Math 101") from the curriculum.

In a High Schools That Work school, students are required to take at least four college preparatory English credit courses; at least three credits each in math and science (junior and senior year); at least three social studies credits; at least four credits in a broad field of vocational study; and at least two credits in a related academic or technical field, including one in computer science.

Supplies and Materials. The developer recommends materials for students that it considers

more challenging than those typically used in vocational education classes (e.g., replacing the English book used in vocational education with the English book used by the college-bound students in the school). The developer does not provide or recommend any specific curriculum materials.

Scheduling and Grouping. The developer requires schools to reorganize the daily schedule into blocks of time that are longer than the traditional period (e.g., 90 as opposed to 60 minutes). Each block of time is devoted to a core academic course (e.g., English, mathematics, science).

Monitoring Student Progress and Performance. In addition to any mandated state or district assessments, students in High Schools That Work schools are required to participate in an annual math, science, and reading assessment related to NAEP.

The developer also recommends that students be assessed daily through their work as they solve problems together, keep logs and journals, and complete other exercises that monitor growth in their ability to understand and use information.

Also, with the help of the developer, schools must identify students who need extra help and time to meet higher standards. The school is responsible for the cost and time of any extra assistance (e.g., tutorial sessions) needed to help students meet the standards.

Family and Community Involvement. Students, parents, teachers, community members, and business leaders serve on a school advisory council. In addition, local business members serve on many of the individual vocation-based advisory councils at separate school sites. The purpose of both the school advisory council and the vocation-based advisory council is to provide feedback to the school on the program and, in the case of the school advisory council, to coordinate program implementation.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. In the first year of implementation, the developer provides a required two-day workshop (at a central location or at the school) where staff, parents, and members of the community develop a school action plan. The action plan identifies issues of importance to the school and sets a schedule for resolving these issues. Developer staff members make at least two follow-up visits to help schools implement their action plans. In addition, required professional development in the first year includes a three-day training session in leadership, and a three-day retreat for school leaders.

In addition to these required activities, the developer provides customized professional development. High Schools That Work staff and school staff work together to conduct an assessment of students' academic needs using a High Schools That Work assessment package created by the Educational Testing Service. Every year, the developer provides two to four workshops to help schools address student needs that have been identified. Workshop topics might include selecting indicators of progress and performance, learning through projects, using data to update the site action plan, or developing syllabi, among others.

The developer recommends that school staff read the following materials in the first year to help implementation: *At Your Fingertips*, a 250-page workbook containing a six-step approach to monitoring school improvement; the *Practitioner's Guide to Getting to Work*, a package of strategies, activities, and case studies for use by teachers and administrators; *Making High Schools Work*; and *Teaching for Understanding*. Staff development guides and research reports also are recommended reading.

In the summer after the first year of implementation, a team from each High Schools That Work school is required to attend a three-day summer

institute. The institute, held immediately before or after an optional four-day High Schools That Work Conference, focuses on topics such as changing the organization of the school, planning staff development, and finding resources.

In the second year of implementation, the developer visits the school two to five times to provide technical assistance; after these visits, the developer gives the school written reports recommending next steps in implementation. High Schools That Work expects school faculty to modify and improve the school's action plans for the following year, using results from student assessments in the first year and the *At Your Fingertips* workbook. Further, the developer recommends that staff review research briefs based on national data from the 1996 High Schools That Work assessment and the *Practitioner's Guide to Getting to Work*, a guide developed by the program. Recommended sections include integrating vocational and academic curricula, learning experiences, and assessment. Teams from High Schools That Work schools are required to attend the three-day summer institute after the second year of implementation.

For the third year, the developer recommends guides on topics such as designing vocational courses and using new classroom methods as well as the *Practitioner's Guide to Getting to Work*. The section on assessment is particularly recommended.

Implementation Requirements and Schools' Experiences. High Schools That Work is designed to be implemented over a three-year period. However, according to the developer, full implementation often takes slightly longer. Before the start of implementation, the developer requires schools to commit \$15,000 to \$20,000 annually for staff development, curriculum development, planning time to develop new lessons, stipends for professional development, and other local costs. In addition, schools are required to demonstrate support from the district office, school leaders, and the school board. An 80 percent vote of approval by faculty is re-

quired, as is participation in the annual High Schools That Work assessment.

According to the developer, reviews conducted by High Schools That Work staff are used to determine how the key practices are being implemented, to identify major concerns, and to recommend solutions. In addition, toward the end of implementation, the developer helps schools conduct a survey of students' perceptions of their high school experience and teachers' expectations.

According to one implementation study, many, but not all, students in High Schools That Work take a challenging academic course load and/or complete a major. This study suggests actions to help high schools integrate challenging academics into vocational studies, including:

- Schools require students to choose a major (academic or career), or develop an academy within the school that joins an emphasis on academics with a career focus.
- Teachers use instructional strategies that focus on students, such as student projects or emphasis on writing, as an essential part of all instruction.
- Schools provide extra support (such as remedial courses or tutoring) to career-bound students who are taking challenging academic courses.
- Schools involve instructional staff in making decisions for the school, such as committees of teachers and administrators to hire new staff, set budgets, and establish the curricula.
- Schools connect with businesses in the community to help students learn about careers or develop skills, or to provide financial support to the school.
- Schools use information such as test scores and surveys to identify students' strengths and weaknesses, in order to improve instruction.
- District staff provides schools with needed support, such as teacher release time for pro-

fessional development, and helps to bring together school staff, parents, and business and community leaders.

- Schools build connections with middle and postsecondary schools, to help students make the transition from one stage of learning to the next.

COSTS

The first-year cost of adopting this approach is \$48,000. This includes the average cost for professional development, technical assistance, assessment, and materials. It also includes an average amount the developer estimates that schools should set aside for expenses, such as teacher release time.

Developer fees for High Schools That Work are based on a three-year implementation. The costs for a district or school interested in the approach are as follows:

- Year 1: \$25,000-\$35,000. This includes the costs of the workshop in which the school action plan is developed; technical assistance (including guidance for instructional staff in developing curricula); professional development; the High Schools That Work assessment package; team registration at the national summer conference; and materials.

- Year 2: \$25,000-\$35,000. This includes a technical assistance visit by High Schools That Work staff and follow-up technical assistance; staff development; assistance with curriculum development; the High Schools That Work assessment package (optional this year); and team conference registration.
- Year 3: \$25,000-\$35,000. This includes advanced staff development; follow-up technical assistance (including guidance in updating the site action plan); team conference registration; the High Schools That Work assessment package; and an evaluation of the effects of High Schools That Work.

In addition, sites are required to provide \$15,000 to \$20,000 annually for staff development, curriculum development, planning time, stipends, and other local costs.

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HIGH/SCOPE K-3 MODEL

Evidence of positive effects on student achievement	●
Year introduced in schools	1967
Number of schools	27
Support developer provides schools	●
First-year costs	
with new staff	\$130,000
with current staff reassigned	No change

● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The High/Scope K-3 model is based on the belief that children should be active participants in their own education and that they learn best from hands-on experiences. A primary goal is to improve children's problem-solving and independent thinking skills. Teachers are encouraged to guide learning by observing, supporting, and extending activities initiated by students, although more structured learning experiences also may be provided.

The first—and best-known—High/Scope approach, the High/Scope Perry Preschool Model, was developed in 1962 to serve disadvantaged pre-K students. The approach has since been adopted by individual schools and teachers to serve a wide range of students and communities.

The K-3 model was established in 1967. (The developer is in the process of expanding the model to upper elementary and middle school students.) In its first year, High/Scope K-3 was implemented in ten schools in six states. As of summer 1998, the developer estimated that High/Scope staff provided a full range of service to 27 schools and partial services for more than 500 schools. In addition, several thousand schools use the High/Scope materials.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. Research on the effects of the High/Scope K-3 approach is marginal. Only one study examined the approach's effects on student achievement. That study was

sufficiently rigorous to report the results here. In addition, two implementation studies were reviewed. To date, most studies of High/Scope have focused on the preschool model and were not considered for this report.

Effects on Students. The one rigorous study of this approach shows positive effects on student achievement. Test scores of High/Scope students were compared to scores of other students in the same school and to students at a similar, non-High/Scope school. High/Scope students scored significantly higher on various standardized tests (e.g., Comprehensive Test of Basic Skills, Iowa Test of Basic Skills, California Achievement Test, Stanford Achievement Test) than their counterparts.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. The High/Scope K-3 model requires little organizational change within schools, nor does it require schools to hire additional staff. The developer recommends two adults for each class—a teacher and a teaching assistant—but this is not required. There are no specific requirements for the number of children per class or the ratio of students to teachers.

Curriculum and Instruction. Curriculum and instruction are based on four principles. First, the High/Scope approach believes that, from birth to adulthood, individuals develop awareness and understanding through active engagement with people, events, materials, and ideas. The developers call this process *active learning*. Second, individuals learn best when they are encouraged to plan, carry out, and reflect on activities. Third, intellectual development occurs in a predictable order, and many kinds of learning experiences contribute to the learner's intellectual, social, emotional, and physical development. Fourth, consistent support for children in making their own decisions helps them use more self-control and feel more competent and responsible.

These principles are supposed to be supported by a curriculum structured around a "plan-do-review" period and "key experience workshops." In the plan-do-review process, children choose, organize, and evaluate their own activities. Key experience workshops are small-group classroom activities in language, mathematics, science, movement, and music.

High/Scope classrooms should have a number of "activity centers" where students can work together in small groups. These activity areas should have materials that are accessible to children, so that students can use them independently during plan-do-review.

For reading instruction, the developer encourages a blend of phonics and whole language approaches and emphasizes writing.

Supplies and Materials. The High/Scope K-3 model is designed to be used with commercially developed materials or materials already used at the school, not materials provided by the developer. Although school staff are not required to do so, the developer notes that teachers often create their own materials. Since 1986, the developer also has supported the use of technology with the approach.

Guides developed by High/Scope provide detailed information on implementing the K-3 approach. Specific guides and materials that are available include:

- curriculum guides in movement, music, language and literacy, learning environment, mathematics, and science;
- videotapes on active learning, classroom environment, language and literacy, and mathematics;
- movement and music materials (e.g., *Teaching Movement and Dance*, *Movement Plus Music*, *Rhythmically Walking*); and
- related High/Scope press publications (e.g., *A School Administrator's Guide to Early Child-*

hood Programs, High/Scope Buyer's Guide to Children's Software).

Scheduling and Grouping. The High/Scope K-3 model requires grouping students three different ways during a typical school day: as an entire class, in small groups of four to six students, and individually for plan-do-review time. The developer will provide interested schools with a "typical schedule" for both a half-day and full-day kindergarten, and for grades one to three.

Monitoring Student Progress and Performance. High/Scope instructional staff are encouraged to monitor children on an ongoing basis to ensure that activities and instruction are tailored to individual needs. Teachers are encouraged to record their observations of student activities and progress, but specific forms or types of assessments are not required.

Family and Community Involvement. High/Scope recommends field trips to provide children with active experiences relating to their lives outside of school. While High/Scope does not require specific involvement with families or the community, it encourages staff to use community resources and involve parents in their children's learning.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. Schools may choose to implement High/Scope partially, with limited guidance from the developer, or as a schoolwide model with a full range of support including direct guidance and ongoing professional development. Among the hundreds of schools currently doing something with the approach, 27 have contracted with High/Scope for full services.

For schools contracting for full support, High/Scope staff present a week-long training session at the school during the summer, at which

school staff learn the basic elements of the approach and develop plans to implement it in their own classrooms.

During the first year of implementation, High/Scope staff provide four additional training visits. Topics include such areas as the plan-do-review process; methods of evaluation; guides to educational software; and the use of technology and activities in specific subject areas, such as language arts, math, science, movement, and music. During years two and three, High/Scope staff visit schools five times a year to conduct one-day workshops, observe classrooms, and provide feedback to staff.

High/Scope schools have opportunities to learn from each other through an annual High/Scope Registry Conference each spring, regional conferences, the High/Scope newsletter called *Resource*, and the High/Scope Web site.

Implementation Requirements and Schools' Experiences. The developer recommends that schools interested in a schoolwide implementation of the High/Scope K-3 approach garner support by involving staff and parents in a one-week, introductory training. A formal vote by staff is not required. Space in classrooms also must be arranged for activity centers, which may require the development or purchase of new materials.

After visiting the school to provide guidance and professional development, a High/Scope trainer uses a High/Scope Elementary Program Implementation Profile to report on implementation. The Profile uses a checklist to measure changes in classroom environment, instructional methods, and adult-child interactions. Both the school and High/Scope staff receive a copy of the report to help them make improvements in the program.

According to the limited implementation research available, High/Scope can be implemented successfully when the approach receives adequate support. One implementation study found that training was considered extremely useful; however, it was noted that the distance between the

implementing school and the High/Scope organization, located in Michigan, was a barrier to communication. The developer suggests that ongoing professional development, local administrative support, and required supplies, materials, and equipment can contribute to successful implementation.

COSTS

The first-year cost of implementing the approach in a school of 25 K-3 teachers is \$130,000. This is based on an estimate of one year of professional development, including estimated teacher release time; materials; and consultant travel expenses. Few elementary schools have 25 K-3 teachers, so costs for the typical school would be lower. For a school of eight K-3 teachers, first-year costs would be approximately \$42,000.

Costs the school pays the developer are negotiated on an individual basis and are influenced by the number of classrooms in the school and travel costs for High/Scope trainers. A typical cost for a three-year contract with High/Scope (for a school with eight K-3 classrooms and an average class size of 25) is as follows:

- consulting fee paid to High/Scope for 15 site visits: \$35,700;

- curriculum guides and recordings for eight classrooms: \$4,000 (first year only);
- workshop materials: \$750;
- registration for six staff members to attend High/Scope Registry Conference for three years: \$1,800; and
- Estimated travel, food, and lodging for consultant: \$14,900.

Costs are estimated to be stable across the time period because services are consistent throughout the three-year contract. In addition to these costs, schools pay travel, release time, and other expenses for teachers to attend conferences and workshops.

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LEAGUE OF PROFESSIONAL SCHOOLS

Evidence of positive effects on student achievement	●
Year introduced in schools	1989
Number of schools	158
Support developer provides schools	●
First-year costs	
with new staff	\$13,000
with current staff reassigned	No change

● = Strong ● = Promising ◐ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The League of Professional Schools is a network that intends to "democratize" education by encouraging school staff, students, parents, and community members to play an active role in making the decisions that affect teaching and learning. A central premise of the League is that people who are actually in the school know and care most about the students, programs, and future possibilities for improvement, and therefore must be included in decision making. Developers believe that this "democratization" process will improve student learning and, by example, teach students the ideals of a democratic society.

League schools work to achieve schoolwide instructional improvement using a three-part

framework. First, a *covenant of teaching and learning* describes what people associated with the school want students to know and be able to do, specifying appropriate instructional practices and assessments of student mastery. The covenant serves as the guiding vision of the school's effort to provide the best possible educational experiences to students.

Second, there is a commitment to *shared governance*, whereby all staff are promised an equal voice in "bringing their covenant of teaching and learning to life."

The final part of the framework is an *action research* process through which the staff studies the effects of educational decisions on students. In line with the covenant of teaching and learning, schools are supposed to determine the issues that

they wish to examine, collect and study data, and use the results of this research in making decisions to improve the school.

The League was founded in 1989 by Carl Glickman of the University of Georgia. The original Georgia League has over 100 schools. There are also League-affiliated clusters in Nevada (17 schools) and Washington (41 schools). Although the three state-level clusters are run independently from the developer, they all follow the same guiding principles.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. Overall, research on the League's effects on student achievement is marginal. Specifically, three studies examined the approach's effects on student achievement; two of these three studies were considered sufficiently rigorous to report here.

Five studies that focused on implementation issues also were reviewed. All of the research examined schools in the Georgia League.

Effects on Students. One study, conducted by the developer, found that dropout rates in one League school fell from 12 percent to 9 percent to 6 percent over a three-year period. A second study, conducted by an independent researcher, compared student outcomes in 45 League schools to comparison schools. It found slight non-significant differences favoring League schools on assessments of academic performance. However, there is evidence that academic performance was higher in schools where the League approach was well implemented. Both studies were of elementary schools in Georgia.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. The League attempts to change how schools are run by involving staff, administrators, parents, students, and commu-

nity members in making decisions regarding instruction and schoolwide strategies. Therefore, the League may require significant changes in school governance. Schools establish Leadership Teams to guide the process. Leadership Team members can be appointed by the principal or can volunteer; however, electing members is the preferred method. Leadership Teams bring issues to the attention of the entire staff, students, and the educational community, who then have a voice in making decisions for the school. The developer considers support from principals and other school administrators to be crucial to success.

In addition to a new role in governance, staff members assume responsibility for conducting action research. Faculty are responsible for determining the research design and conducting the research. Typically, data are collected through surveys (for example, on student or teacher attitudes about a subject area, school climate, etc.), from files, and from standardized tests. According to the developer, the League is now focusing more on teaching and learning issues and less on issues dealing with governance. League meetings, on-site visits, newsletters, summer institutes, and a new consortium of League educators are geared to reflect an emphasis on classroom practices and student demonstrations of learning.

Curriculum and Instruction. The League does not provide or require specific curriculum or instruction. However, the League works with and encourages participating schools to make curricular and instructional changes that are consistent with the school's covenant of teaching and learning.

Supplies and Materials. The League does not provide or require specific materials or supplies.

Scheduling and Grouping. There are no specific requirements for scheduling classes or school days, nor does the League provide guidelines for grouping students in or across classes. However, according to the developer, the League's democratic principles argue against tracking.

Monitoring of Student Progress and Performance. The League does not provide guidelines for monitoring student performance. However, the action research component requires schools to collect data; for some schools, this may require additions or adaptations to current methods of assessing student progress.

Family and Community Involvement. Family and community involvement is an encouraged, but not required, component of the League approach. The developers encourage schools to involve families and the community in writing their teaching and learning covenants, in making decisions related to fulfilling the covenant, and in the action research process.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. League schools have access to on-site technical assistance and off-site conferences and institutes. Teams of approximately six staff members, typically teachers and administrators, may participate in three professional development conferences each year: one two-day conference in the fall, and two one-day conferences in the winter and the spring. Schools are required to send a team to the fall and winter conferences. The spring conference is considered optional. (However, schools that choose to send a team to the spring session do not have to pay an additional fee.) Conferences have breakout sessions, including sessions that address action research issues.

The League also offers optional institutes during the school year and over the summer on topics such as team building, action research, grant writing, and specific instructional innovations. The sessions are conducted by League staff, university "associates" (typically a university faculty member affiliated with the League), principals, or veteran League teachers.

A League representative, (e.g., a League staff member, university associate, or current League

teacher) visits each school annually. This visit is intended to provide school staff with an opportunity to discuss progress, concerns, and plans with someone who is knowledgeable about the approach. For example, schools that are struggling with action research may work on that component during the site visit. Visitors review the school's plan, interview key people and groups in the school (including students), and provide the school with a summary of what was learned. Additional consultations at the school are available.

According to the developer, League schools have unlimited access to an Information Retrieval System based with the developer that provides information on issues, concerns, and practices dealing with the League approach. Schools receive a variety of materials on sharing responsibility for running the schools and action research, plus a biannual newsletter, written by League practitioners, about the work occurring in League schools. League members also can have unlimited telephone consultation with League staff. Finally, the League currently is developing a Web site for participating schools to share research reports, case studies, and best practices from other League schools, along with basic information about the League.

Implementation Requirements and Schools' Experiences. Schools that are interested in becoming League members are required to send a team of six staff members to a two-day orientation workshop for an introduction to the League's premises and goals. According to the developer, teams are composed of the principal, teachers, and perhaps parents or district staff. It is expected that teachers will represent the majority of participants. The workshop, presented by League staff and by staff from veteran League schools, covers the history and the framework of the League. Typically, but not necessarily, the orientation takes place at the beginning of December, which gives schools enough time to decide whether to become a League member for the following school year.

After attending the orientation workshop, the team is expected to report back to the entire school staff, which then votes (by secret ballot) on whether or not to join the League. The League requires that at least 80 percent of the school staff vote to join. Approval by district administrators also is required. Schools then submit a letter of application for membership, in which they sign a commitment to: collect data to assess their progress; establish representative, democratic, decision-making procedures; use the decision-making process to improve instruction; set school instructional goals and work collectively on attaining these goals; and share experiences with colleagues in other schools.

The implementation studies conducted to date have found that schools benefit when staff members are provided with the opportunity to discuss and ask questions about the League approach. It was found that 63 percent of "older" schools (those that had implemented the approach for several years) had reached consensus on their covenant of teaching and learning, compared to 30 percent of "younger" schools. Eighty-one percent of older schools had set up and used a system for making decisions, compared to none of the younger schools. Finally, 37 percent of the older schools had made significant progress toward doing action research, compared to 20 percent of younger schools.

According to several studies, the action research component of the framework is the most difficult to implement. Researchers suggest several reasons for this, including teachers' limited time and lack of familiarity with research methods.

COSTS

The first-year cost of adopting the League of Professional Schools is \$13,000. This includes release time for professional development, a membership fee that covers training, and an estimate of travel costs for professional development (based

on the average amount spent by schools AIR interviewed).

Because the developer only works with schools in the state of Georgia, and, thus, only schools in the state of Georgia are allowed to become official "League" schools, estimated costs are given presuming schools are located in close proximity to the developer. The League does work with schools outside of Georgia that want to start their own networks, but because the cost of this assistance (e.g., travel to the site) vary greatly across schools, estimates are unavailable for schools outside the state.

For schools in Georgia, participation in the League requires an annual \$1,000 membership fee, regardless of the size of the school. This fee covers professional development and technical assistance: specifically, the two-day fall conference, the one-day winter meeting, and the optional one-day spring meeting. The fee also covers the professional materials used in training, the biannual newsletter, unlimited access to the Information Retrieval System, unlimited telephone consultation with League staff, and a one-day visit to the school by League staff or their designees. Other consultation to the school is available for an additional fee (not specified by the developer).

The developer notes that the \$1,000 fee covers only one-fifth of the total value of the benefits that League schools receive (valued at \$5,000); the other \$4,000 comes from foundations and private donations to the League. Moreover, the membership of approximately ten percent of League schools is covered by a League scholarship fund.

League schools incur additional expenses to implement the approach. The schools must finance any expenses associated with travel to the conferences, including release time. Assuming that a team of six staff members attends each of the three conferences (totaling four days), professional development will require 24 days, plus travel time and expenses. (In the first year, 12

additional days would be required to attend the initial orientation meeting.)

Further, the process of reform requires a substantial commitment of time on the part of the staff. Some schools may pay for release time, others may ask staff to volunteer time, others may use existing district staff development time, and others may seek grants to pay for substitute teachers or to pay teachers for the extra hours they spend on the approach.

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MODERN RED SCHOOLHOUSE

Evidence of positive effects on student achievement	?
Year introduced in schools	1993
Number of schools	50
Support developer provides schools	●
First-year costs	
with new staff	\$215,000
with current staff reassigned	No change
● = Strong ◐ = Promising ◑ = Marginal ◒ = Mixed, Weak ? = No Research	

OVERVIEW

Modern Red Schoolhouse was designed to help schools achieve standards-based reform, focusing on six areas: organization and finance; technology; curriculum; standards and assessment; community involvement; and professional development. The approach intends to help schools set high academic standards that are consistent with district and state assessments and cover rigorous core content. The approach attempts to build on a school's strengths, address weaknesses, and develop a plan for continuous self-improvement. In addition, schools are expected to assume increasing responsibility for many items that are traditionally controlled by the district (e.g., budgeting, personnel assignments, curriculum details, scheduling, teacher/

student ratios, and time allotted to various subjects).

Modern Red Schoolhouse is one of several approaches sponsored by New American Schools, a national initiative to develop replicable schoolwide reform programs. Developed in 1992 by the Hudson Institute, Modern Red Schoolhouse is now a separate private, nonprofit organization.

According to the developer, the approach was built around the idea of a "little red schoolhouse" that draws people together for a common purpose, and was based on research in psychology, sociology, and education. The approach was first used in six elementary schools in 1993. In 1994, two middle schools and one high school were added. At the time of this report, 29 elementary schools, 14 middle schools, and seven high

schools in 11 states were using the Modern Red Schoolhouse approach, although the developers note that only five of these 50 schools have fully implemented the program.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. Modern Red Schoolhouse is a relatively new approach and does not yet have a strong research base on student achievement. However, the developer has compiled score data and some contextual information on the approach. These data do not meet this report's criteria for rigorous research, and are not discussed here, but are available for public review. At the time of this report, 1997-98 test score information for 13 schools in six districts was available from the developer. In addition, New American Schools has contracted for evaluation research on this and other sponsored approaches.

Research on implementation is available. As part of the larger New American Schools contract, five studies provide information on the implementation progress of Modern Red Schoolhouse schools.

Effects on Students. No rigorous research studies on student achievement are currently available. However, the reader is encouraged to obtain and evaluate the test score data on Modern Red Schoolhouse schools that are available from the developer.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. According to the developer, full implementation of this approach requires that schools, principals, and instructional staff have considerable freedom in determining how best to meet the needs of their students. The approach requires districts to give schools more autonomy in choosing their curriculum; in assigning, hiring, and firing staff; in scheduling classes; and in allo-

cating school budget funds. Modern Red Schoolhouse recommends that schools control 80 percent of their budget by the third or fourth year of implementation. The developer suggests that the approach may be most effectively and easily implemented in districts that are decentralized.

Modern Red Schoolhouse also recommends that school staff assemble six committees: community involvement; curriculum; organization and finance; standards and assessment; technology; and professional development. Together with the principal, committee chairs form a leadership team that may be expanded to include parents, faculty members, and community representatives.

To assist with the development and implementation of long-range plans, Modern Red Schoolhouse trainers work on-site with each of these groups. (See the section on *Professional Development and Technical Assistance* for more details.) Schools are encouraged, but not required, to hire a technology coordinator.

Curriculum and Instruction. The developers recommend that schools teach eight core subjects (math, science, English, history, geography, foreign language, art, and cultural literacy). Schools not already teaching these subjects are encouraged to consider using the Core Knowledge curriculum (described under the *Core Knowledge* profile in this document).

Modern Red Schoolhouse does not provide or require a specific curriculum; rather, the developer supports local teachers in developing curricula that are coherent across grades. Trainers from the developer's staff work at the school to help instructional staff develop lesson plans. Scoring guides ("rubrics") are then developed by the teachers as part of the training program. These scoring guides, according to the developer, should be consistent with state and local standardized tests and should become part of lessons.

Supplies and Materials. Although no specific supplies and materials are provided or required, Modern Red Schoolhouse recommends using

technology in the classroom for several purposes, including sharing information, assessing students, and tracking student progress on goals. The developer requires that schools have: a network of computers, a fileserver, a modem, instructional and management software, voice mail, student work stations (6:1 ratio), and cable and satellite down-links.

Depending on local circumstances, the developer also recommends that schools use the Core Knowledge scope and sequence and/or Open Court reading materials. Assessment materials are provided through "capstone units" developed by national experts. According to the developer, teachers are trained to find inexpensive ways to provide suitable materials for their students.

Scheduling and Grouping. The Modern Red Schoolhouse encourages schools to build schedules and group students in ways that promote "continuous progress." Options that schools may use include grouping by student performance (i.e., "ability grouping"); grouping students together with the same group of teachers for multiple years (i.e., "looping"); scheduling after-school or summer programs; having ungraded classrooms; and providing time for students to work individually or in small groups on projects that the students themselves devise and complete (i.e., "self-directed learning"). The developer suggests that scheduling should allow adequate time for planning lessons and for students to explore topics in depth (particularly in the upper grades).

Monitoring Student Progress and Performance. The Modern Red Schoolhouse approach uses standardized tests, assessments based on student performance, and individual student contracts to monitor student progress. Through the required Individual Education Compact (IEC), goals are developed for each student, with progress toward meeting those goals monitored and discussed by the student, teacher(s), and parents. Ideally, dis-

cussing and revising progress reports to parents should occur annually.

Schools are required to use "capstones," assessments that gauge student progress in the classroom in regard to standards. Teachers and Modern Red Schoolhouse trainers also work together to develop a curriculum that is consistent with tests required by the state or district.

Family and Community Involvement. Modern Red Schoolhouse considers parent and community involvement central to the approach. Parents are encouraged to become involved in learning about classroom activities, assisting in the classroom, and, as appropriate, serving on school-related committees. Schools are encouraged to establish parent centers and to provide referrals or establish a network to provide social services.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. Most professional development is done at the school. During the first few years of implementation, the developer expects schools to devote approximately 30 days a year to professional development tailored to the schools' needs. The developer reports that many schools prefer to hold the five-day inservice over the summer, as an institute. The entire staff is expected to participate in five additional days of inservice on topics chosen by the school. In addition, small groups of instructional staff are required to participate in 20 days of group-specific curriculum training. Finally, the school committees (e.g., curriculum committee, technology committee) are required to spend five days in inservice training to focus and plan their tasks. During the five annual training and technical assistance site visits, the developer helps the school evaluate implementation progress against benchmarks in its implementation plan.

Although the amount of training is specified by the developer, individual schools determine the

exact content of all training and technical assistance in consultation with Modern Red Schoolhouse staff. However, a typical professional development package might include the following:

- *The process of change:* identifying and managing responses to organizational change.
- *Using standards:* research by school staff, scope and sequence of the curriculum, development of instructional units, assessment based on student performance, and strategies for organizing both instruction and the classroom for instruction.
- *Organizational components:* committee and leadership development.

In addition to on-site training tailored to the needs of the school, the developer provides technical assistance through a toll-free telephone number and a Web site. The developer provides support for at least the first three years of implementation.

Until recently, all training has been done by the core staff of Modern Red Schoolhouse, but as the number of schools using this design has grown, there has been a corresponding need for more trainers. Training for 22 additional trainers began in summer 1998. The developer states that all of these trainers have used Modern Red Schoolhouse for several years, and they will be required to continue their own training.

Implementation Requirements and Schools' Experiences. Modern Red Schoolhouse encourages all schools considering the approach to review informational materials, visit sites, and speak to staff members at schools currently using the approach. The developer also requires that 80 percent of the faculty approve the decision to adopt the approach (by secret ballot).

During a pre-implementation planning phase, Modern Red Schoolhouse and school staff work together at the school to develop a detailed implementation plan. The developer also recommends involving district staff in this phase.

Five implementation studies indicate that, according to school staff, the design has had a positive influence on school organization, instructional strategies used in classrooms, alignment of instruction across subjects, collaboration among teachers, parent and community involvement, and student engagement with learning. Urban schools reported improvements in both student behavior and attendance. According to three studies conducted for New American Schools, schools report that substantial preparation is needed before implementation. These studies suggested that schools adopting the approach are more successful if they begin with changes that directly affect classrooms (e.g., changing curriculum and assessment) before focusing on changes in governance.

COSTS

The first-year cost of adopting Modern Red Schoolhouse is \$215,000. This includes an average fee for training and technical assistance, an estimated cost for technology, and estimated release time for training (assuming that all teachers participate in five days of training and groups of eight teachers participate in 25 days of training).

The average school of 500 students can expect to pay Modern Red Schoolhouse \$60,000 to \$80,000 per year for each of the first three years of implementation. This fee covers the cost of trainers and consultants for 30 days of training or consultation at the school each year during that three-year period. It does not cover "hidden costs" such as release time for teachers. There is an additional fee for any staff development or training beyond the 30 days. According to the developer, these costs vary so widely that it is not possible to provide an estimate. Further, schools that are located farther from Nashville can expect to pay the entire amount, and perhaps more, due to travel costs.

Modern Red Schoolhouse staff report that some schools, especially very small schools and schools that have experience with performance assessment, have been able to fully implement the design for less than this amount.

The fee paid to Modern Red Schoolhouse does not cover the cost of computer hardware, software, or building rewiring. The developer estimates this cost to be between \$25,000 and \$300,000 over three years. Schools with few computer resources should expect their costs to be at the high end of that range. Also, schools choosing to hire a technology facilitator will incur an additional cost.

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ONWARD TO EXCELLENCE

Evidence of positive effects on student achievement	●
Year introduced in schools	1981
Number of schools	1,000
Support developer provides schools	●
First-year costs	
with new staff	\$72,000
with current staff reassigned	\$60,000

● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

Onward to Excellence is an approach that attempts to build school capacity for continual improvement. A series of workshops are provided to help teams of teachers, administrators, other school staff, and community members learn to set schoolwide goals for increasing student achievement in specific areas, to collect data and evaluate progress toward achieving goals, and to set new objectives once initial goals have been met.

Schools implement Onward to Excellence in ten steps over the course of two years by:

- conducting an initial assessment to determine the school's areas of need;
- developing a "school performance profile" that shows trends in student achievement;
- establishing one or two broad goals for school improvement related to increased student performance;
- studying research on best practices related to their school goals;
- reviewing their current instructional practices in relationship to the research;
- determining how to improve student learning in the areas of their goals;
- developing an implementation plan;
- carrying out the implementation plan (identifying resources, organizing training, and changing practices);
- monitoring progress toward meeting the goal(s); and

- reviewing the school's progress toward meeting its goal(s) and setting new goals after first goals have been met.

Onward to Excellence was developed at the Northwest Regional Education Laboratory (NWREL) in 1981. The approach resulted from research on effective schooling practices, including research on: school effects, teacher effects, instructional leadership, curriculum alignment, program coupling, and educational change. Presently, over 1,000 schools (K-12) have adopted the approach. NWREL grants other organizations, such as education service centers, state departments of education, school district offices, or universities, permission to conduct training using Onward to Excellence, provided that NWREL has trained their staff.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. Overall, the strength of the research base is marginal. Much of the research available was conducted by the developer. Four studies were reviewed that report student outcomes, two of which use a sufficiently rigorous methodology to report their findings here. One of these was conducted by independent researchers.

One limitation of the research on Onward to Excellence is that, although the approach is used in over 1,000 schools across the country, studies have focused on schools in the state of Mississippi. Still, this limitation is mitigated by two factors; one-quarter of all Onward to Excellence schools are in Mississippi, and the research in Mississippi has been extensive. One study examined 33 Mississippi schools; the other looked at almost 30 school districts, including almost every Onward to Excellence school in Mississippi.

In addition, three studies have looked extensively at the factors that help and hinder the implementation of this approach.

Effects on Students. There is some limited evidence that Onward to Excellence improves student achievement. Two studies found that well-implemented Onward to Excellence schools had higher reading test scores than schools not using the approach.

Further, one study provided evidence that Onward to Excellence is effective for schools in high-poverty districts. Specifically, when Onward to Excellence districts with more than 60 percent of students receiving free lunch were compared to Onward to Excellence districts with fewer than 60 percent of students receiving free lunch, it was found that the higher-poverty districts had higher gains in reading. In addition, Onward to Excellence students in high-poverty districts were found to have significantly greater gains in reading achievement over two years than did two comparison groups: 1) the average gain across the state of high-poverty schools, and 2) a non-Onward to Excellence high-poverty control group.

However, the more typical Onward to Excellence school (i.e., a school that does not have a high-poverty population or that is not identified as implementing the approach especially well) does not improve achievement, according to one study. In these schools, student achievement did not show a pattern of improvement; scores rose and fell slightly (not significantly) over time.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Onward to Excellence requires that schools establish two teams to lead the reform effort. A School Leadership Team—composed of the principal plus a combination of school staff, community members, and (in secondary schools) students—is responsible for guiding the school and the community through reform. According to the developer, the School Leadership Team is trained in the process of improvement; the team, in turn, uses this knowledge to engage school staff, the community, and students in reforms based on reviews of the cur-

riculum and instructional practices. In addition, the School Leadership Team is responsible for drafting the school's implementation plan.

The second team is the External Study Team, which is composed of representatives from educational service centers, local universities, the district central office, and other Onward to Excellence schools. The developer recommends that members of the External Study Team have a background in research and evaluation methods. (As described below, some of the Onward to Excellence training sessions cover issues related to research and evaluation, so the External Study Team members do not necessarily have to be research and evaluation experts.) The External Study Team is responsible for collecting data, developing the school performance profile, reporting their findings to the school leadership team and faculty, and providing feedback on the school's progress toward meeting its goals.

In addition to the School Leadership Team and the External Study Team, each school is required to hire a quarter-time facilitator who is responsible for coordinating implementation in the school. Onward to Excellence encourages four or five schools that are located in close proximity to one another (they do not have to be in the same district) to join Onward to Excellence as a "cluster" so the schools can share one full-time facilitator. According to the developer, one External Study Team can serve several schools in a cluster, although each school must have its own School Leadership Team.

In terms of administrative support, the developer reports that successful Onward to Excellence implementation requires a principal who is willing to share some decision-making responsibility with the School Leadership Team.

Curriculum and Instruction. The developer does not provide or require specific instructional strategies or curricula. However, aligning the school curriculum with state and local standards is the focus of one training workshop. According to the developer, training also focuses on helping teach-

ers compare current instruction to research-based instruction.

Supplies and Materials. There are no classroom instructional materials or supplies associated with Onward to Excellence. Some professional development materials are provided to workshop participants.

Scheduling and Grouping. Onward to Excellence does not provide guidelines for scheduling or grouping students. However, the approach does require that schools establish common planning time for instructional staff to work together.

Monitoring Student Progress and Performance. A central component of Onward to Excellence is continuous monitoring of student performance by the External Study Team. The External Study Team's first role is to develop the school's performance profile, which shows trends in student achievement, behavior, and attitude. This profile is based on standardized test scores, surveys, interviews, and group discussions with teachers, administrators, parents, students, and other community members. The profile helps the school identify learning goals and provides a baseline against which to measure progress. Onward to Excellence does not specify the student performance indicators that the External Study Team should analyze; according to the developer, these are determined through discussions with the School Leadership Team.

Family and Community Involvement. The single explicit requirement for family or community involvement is for parents and community members to participate on the School Leadership Team. Parents and community members also are encouraged to participate on the External Study Team.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. Onward to Excellence offers a professional development program designed to help

school staff learn to set, meet, and refine goals for improved student achievement. Schools participate in a series of Onward to Excellence workshops, conducted over a period of two years. The workshops are conducted at the school by Onward to Excellence trainers and attended by the School Leadership Team and the External Study Team. After each training session, members of the School Leadership Team work with the entire faculty, staff, and community on the processes learned in the training workshop.

According to the developer, the workshops follow a relatively strict schedule to ensure that all required training is provided over a two-year period. For example, in the first month, school or district administrators attend a half-day *Onward to Excellence Awareness* workshop that reviews Onward to Excellence and prepares participants for talking with staff and gaining their commitment. Also during the first month, school board members and the superintendent attend a half-day session designed to gain their support. Following is an abbreviated schedule for the remainder of the two-year period:

- During month two, an Onward to Excellence trainer presents a one-day *Getting Started* workshop. After the workshop, schools form the two teams. The School Leadership Team attends a one-day *Introducing Onward to Excellence* workshop, and the External Study Team attends a one-day *Conducting Initial Assessment* workshop.
- In month three, the School Leadership Team attends a one-day workshop on *Focusing on School Improvement Goal(s)*, after which the team and faculty identify school improvement goals.
- In month four, the School Leadership Team attends a one-day *Mapping the Curriculum* workshop, as well as a one-day workshop on *Learning About Best Practices* led by the Onward to Excellence trainer. The External Study Team also is expected to attend a one-day session on *Preparing for Self-Study*.

- In month five, the School Leadership Team attends a one-day workshop on *Developing a School Improvement Plan*, and then writes the plan based on discussions with staff.
- In month six, the School Leadership Team attends a one-day session on *Taking Action on the School Improvement Plan*, and the External Study Team attends a one-day workshop on *Monitoring Progress*.
- In month nine, the trainer visits the school to guide the School Leadership Team and the External Study Team in establishing networks of experienced people who can help the school implement Onward to Excellence. Specifically, teams learn to establish a principal support network, a network for schools that have common improvement goals, and networks related to quality teaching practices.
- In month 21 (or three months before the end of the second year), the trainer conducts a one-day workshop for key people who are new to Onward to Excellence, *Preparing New Leaders*.
- At the end of the second year, the School Leadership Team and External Study Team attend a one-day workshop on *Renewing the Onward to Excellence Process*.

In total, according to the developer, the School Leadership team needs approximately seven days for training and six days for follow-up and planning per year; any additional support teams formed (e.g., a study team of stakeholders) need approximately three to five days per year for their work; and the entire faculty could expect to spend three days on training. During each training visit, the developer provides technical assistance as well as structured training.

Between each of these workshops, Onward to Excellence provides guidance to schools, answering any questions that arise as they implement the approach. In addition to the professional development provided by Onward to Excellence trainers (the workshops described above), schools

are expected to identify and contract with experts who can provide training related to the schools' goals.

Implementation Requirements and Schools' Experiences. According to the process described by the developer, schools interested in implementing Onward to Excellence should have representatives from the school or the district attend a half-day orientation to become familiar with the approach. These individuals are expected to report back to school staff, who should reach consensus before moving forward. After the staff reaches consensus, representatives present information to the school board, which must agree to support the school's involvement with the approach. If the school board agrees, it spends two hours with the Onward to Excellence trainer to discuss its role and responsibilities in supporting the school.

After this groundwork, the school establishes School Leadership and External Study Teams and appoints the facilitator. The facilitator then works with a School Leadership Team chairperson to plan meetings, document discussions and decisions, follow through on selected tasks on behalf of the team, and monitor progress. The first major objective is to identify the school's improvement goal(s) based on the findings from the school performance profile. If no obvious learning goal arises from the profile, the staff, administration, students, parents, and the community continue discussions until consensus is reached on one or two goals. The External Study Team helps the School Leadership Team develop a system for tracking implementation progress.

Schools are offered a second implementation option: rather than committing to the complete training package (a minimum of seven workshops in two years), schools may decide that they need only limited assistance, or that they lack the resources to commit to the full program. Such schools can choose selected services that allow them to work on specific areas. Workshops are available on topics such as engaging the commu-

nity in goal-setting, establishing a focus for improvement efforts, and profiling student performance. This type of implementation includes at least two workshops separated by enough time for schools to try out ideas between sessions. However, the developer recommends that schools use the complete, seven-workshop package to "foster the highest degree of success over time."

Implementation studies show that a number of schools have been able to implement Onward to Excellence fully, although some components seem to be easier to implement than others. Typically, schools were able to identify goals related to student performance, and showed progress toward achieving those goals. In schools that implemented Onward to Excellence well, the school's goals were well known to the staff, and nearly all of these schools kept performance data that aligned with their goals.

Studies also found that the degree of implementation tended to diminish gradually over time: leadership teams operated more loosely, or student performance profiles were not updated; monitoring became more informal; and improvement goals were not renewed. Of 36 schools surveyed in one study, six had discontinued Onward to Excellence because they were no longer interested in using the approach, the principal left, or the reform lost momentum.

One study identified four strategies to facilitate implementation. First, schools should gain support from policymakers, program developers, foundations, and local educators. Second, schools should identify a group of local trainers who are familiar with the school and are committed to ensuring that the approach works. Third, schools should set a common focus on student learning to help unify the school community. Fourth, schools should develop both internal and external support systems to sustain the required energy and commitment.

COSTS

The first-year cost of adopting Onward to Excellence is \$72,000. This includes half of the two-year professional development fee, estimated expenses for staff release time, travel for developer staff, and a quarter-time facilitator's salary. The first-year cost can be reduced to \$60,000 if the quarter-time facilitator is a current staff member who is reassigned to fill this role.

The cost of the training workshops is \$15,000 for two years. This fee covers all seven workshops and any technical assistance provided between workshops. The fee does not include travel expenses for the NWREL trainer, which schools must cover. Also, the fee for the workshop is \$16,500 if the school is located more than 1,000 miles from the trainer. There are also provisions for training offered by other organizations approved by NWREL. If another organization provides training, the organization providing training sets the cost, with the caveat that the cost may not be greater than that established by NWREL. According to the developer, having another organization provide training is often less expensive for schools because of reduced travel expenses (presuming the other organization is closer to the school).

Schools can also reduce costs significantly by joining a school cluster. One Onward to Excellence trainer can conduct workshops for up to four schools at a time, with the schools dividing the cost. (This is an option only if the schools can meet in one place for the training.) For example, if there were four schools in a cluster, each would

pay one-fourth of the total cost for training, or \$3,750. Schools in clusters also can share the travel expenses of the trainer.

In addition to training fees, schools pay the salary of a quarter-time facilitator. (Joining in a cluster does not reduce this expense.) Schools also cover release time for School Leadership and External Study Team members, estimated by the developer at approximately 13 days per year for an average of four members; release time for approximately three four-member study teams estimated at four days; and release time for all teachers, estimated at three days per year.

Finally, schools may have to purchase additional supplies or instructional materials, or contract with content experts for additional professional development activities directly related to the school's learning goal(s).

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PAIDEIA

Evidence of positive effects on student achievement	○
Year introduced in schools	1982
Number of schools	80
Support developer provides schools	●
First-year costs	
with new staff	\$146,000
with current staff reassigned	\$96,000

● = Strong ● = Promising ■ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The Paideia approach is designed to help students acquire content knowledge and develop critical thinking and problem-solving skills. Developed in 1982 by philosopher and educator Mortimer Adler (philosophy professor at the University of Chicago at the time), and a group of his colleagues known as the Paideia Group, the Paideia approach focuses on changing classroom practice in three "columns" of instruction:

- Didactic teaching—instruction led by the teacher;
- Coaching—individual instruction with one-on-one guidance from the teacher; and
- Socratic seminars—small-group discussions facilitated by the teacher.

Since 1982, the Paideia approach has been adopted by more than 80 elementary and secondary schools across the country. The program is now run by the National Paideia Center (first established in 1988) at the University of North Carolina.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. The research on this approach is weak. According to the National Paideia Center, research dates back to the mid-1980s. Most has focused on the effects of "Socratic seminars" rather than on the other two "columns" of instruction.

Four of the seven outcome studies available for review met our selection criteria for study design and methodology. Three of the four were conducted independently of the developer. The major strengths of these research studies are the quasi-experimental and experimental designs; the weakness is a limited ability to generalize the studies to other situations.

In addition, the School of Education at the University of North Carolina has undertaken a four-year comprehensive study (1997–2001) to evaluate the effect of the Paideia approach on teaching and learning. One of the studies reviewed examined first-year outcomes of this research. Data on further years of implementation will be available as the study progresses; readers interested in Paideia are encouraged to follow this research in the future.

Effects on Students. Overall, the studies show mixed effects on student achievement. Although one study indicated negligible effects, another showed improved mean test scores for girls. Specifically, girls participating in Paideia seminars performed significantly better on the Cornell Critical Thinking Test than girls who did not participate. No differences in the performance of boys were found. Another study found that, for one school, students who participated in Paideia seminars had a better grasp of key concepts than students not participating in such seminars; however the opposite was true for another school in the study.

Of the seven outcome studies available for review, three also provided information on implementation. Schools that have fully implemented Paideia have higher achievement levels; it is difficult, however, to determine whether better implementation of Paideia caused higher test scores, or whether schools with higher test scores implemented the approach better.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. According to the developer, the entire school must be changed to fully implement Paideia. The National Paideia Center requires that each school designate a full-time approach facilitator, whose primary responsibility is to coordinate and assist implementation activities at the school level.

The developer also notes that administrative support and teacher buy-in are critical to the success of the approach because it requires radical changes to traditional instruction. For example, Paideia puts more emphasis on coaching and classroom seminars than on teacher-centered lectures, which traditionally take up a large amount of instructional time.

Curriculum and Instruction. The Paideia approach stresses that all students should develop reading, writing, listening, speaking, and critical thinking skills through a liberal arts curriculum. It also promotes other curriculum activities—such as fine arts, athletic activities, and music—that center around core academic subjects.

Although traditional teacher-led instruction is one of the three main instructional practices, coaching and seminars actually form the core of the Paideia approach, according to the developer. The developer believes that, through coaching and seminars, students learn to explore ideas, develop fundamental thinking skills, and apply their knowledge and skills in real-life situations.

Supplies and Materials. Paideia does not provide or require special instructional materials. Schools are expected to select their own materials. However, the developer does encourage the use of “classics in the classroom”—great literature, art, and music—a term more recently broadened by the developer to include “contemporary classics,” such as *The Color Purple* by Alice Walker. The developer also recommends that the classroom include a variety of printed materials,

including high-quality student projects and exhibits.

Scheduling and Grouping. The developer recommends that schools set aside time for teacher and student planning and schedule the school day in response to the needs of the varied curriculum. For example, schools may need to set aside larger blocks of time for seminars.

Although scheduling will vary according to specific curriculum objectives, Paideia recommends that only 10 to 15 percent of instructional time be spent on didactic teaching. According to the developer, 60 to 70 percent of instructional time should be devoted to coaching, and 15 to 20 percent to classroom seminars. Also recommended are a two- to three-week period for "coached" student projects (from assignment to completion), and up to two hours each week for seminars.

Grouping is flexible in the Paideia approach, with teachers responsible for grouping students within classes and determining the size of seminar groups. In some cases, seminars involve cross-classroom grouping.

Monitoring Student Progress and Performance. In the Paideia approach, teachers determine instructional goals based on content and curriculum standards, then measure student performance against these goals. Accordingly, evaluation should focus on the progress of individual students.

For this reason, the developer does not require specific tools for assessment. However, according to the National Paideia Center, the approach emphasizes assessments that are rooted in each student's work, including checklists completed by students and teachers together, rubrics, narrative assessments that describe student progress, and portfolios of student work.

Family and Community Involvement. Paideia emphasizes (but does not require) family and community involvement as an integral part of the approach. According to the developer, Paideia schools encourage parent participation in activi-

ties designed both for children and adults, particularly through afternoon and evening programs. The developer encourages schools to train parents and community members to lead student seminars. In addition, the developer encourages schools to use a community seminar, with texts discussing democracy, to help strengthen civic participation in the school community.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. According to the developer, professional development is critical to the program's success because Paideia requires changes in instruction. For the first three years of implementation, the developer requires four days of staff training before the start of each school year. Training at the school is available through the National Paideia Center, which provides 25 to 35 person-days of school-level training and guidance each year to each school. This includes helping schools select instructional materials, as well as training teachers in using the Paideia method. Such training requires the use of staff development days or release time for all participants.

In addition to monthly school visits, the developer supports program implementation through special publications and events. The National Paideia Center also reports that it is currently focusing on building support networks of Paideia schools. Information about the Paideia approach and demonstration schools, including relevant research and evaluation studies, is available through the developer's Web site. The Center is attempting to build a "virtual community" Web site that will feature Paideia schools from around the country.

Implementation Requirements and Schools' Experiences. Schools must apply to and gain approval from the National Paideia Center before they can begin implementing the Paideia approach. The minimum requirements for approval are:

- an awareness presentation by a National Paideia Center representative;
- a favorable vote by at least 80 percent of the school staff;
- a set-aside of funds by the school for start-up training and training materials;
- a commitment to provide a full-time Paideia facilitator at the school (teaching one class at most); and
- a commitment to a system of teachers coaching each other to support implementation.

The developer suggests a period of three years as the general time frame for program implementation. Each year is devoted to one major aspect of the program. For example, implementation starts with the Paideia seminar in the first year, followed by coaching in the second year and assessment in the third year. During school visits, the developer's staff meets with the principal and the facilitator, demonstrates classroom techniques, observes classes, and meets with school staff in small groups to discuss implementation-related issues.

Studies addressing implementation show varied results. An independent study of the Paideia program in four Chicago public schools—two elementary and two high schools—indicates that the Paideia approach is relatively easy to implement. This study also shows teachers' attitudes toward the approach as generally positive. However, the three different types of instruction, though consistent across the study schools, appeared to differ from developer recommendations. For example, in terms of time allocated to the three types of teaching, more emphasis was given to didactic teaching than to seminars. Teachers reportedly allocated nine hours per week to didactic instruction, two hours to seminars, and one hour to coaching.

Another study chronicled the history of the Paideia approach in five urban schools in Chattanooga, Tennessee. At the time of the study, three schools had been using the approach for two years, one

school for three years, and one school for almost nine years. Overall, the actual implementation of the approach compared favorably with the criteria recommended by the developer, and replication of critical components had been achieved in all five schools. However, as the schools tried to "home-grow" the Paideia principles (i.e., adapting the principles to their own needs), integrity of implementation began to vary across the schools. For example, the study found that the use of the Socratic method varied within and across schools, and schools modified schedules to accommodate seminars based on their own needs.

A third study examined implementation of the Paideia approach in a variety of schools in an urban district. Overall, the process of implementation was considered slow and uneven, with the quality of implementation varying greatly across sites. Schools with a history of high performance showed greater implementation than other schools.

COSTS

The first-year cost of adopting Paideia is \$146,000. This cost covers professional development, including teacher release time, and the salary of a full-time facilitator. Schools can reduce this cost to \$96,000 by reassigning a current staff member to serve as the facilitator.

Start-up costs for training and materials are approximately \$50,000 to \$70,000 for the first year. Included in these costs are training and implementation visits by the National Paideia Center staff, telephone assistance, training materials for each teacher/participant, and all costs of travel for the developer staff.

Schools are also responsible for compensating teachers who attend other training sessions such as conferences.

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ROOTS AND WINGS

Evidence of positive effects on student achievement	●
Year introduced in schools	1993
Number of schools	200
Support developer provides schools	●
First-year costs	
with new staff	\$270,000
with current staff reassigned	\$70,000

● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

Note: Roots and Wings incorporates and builds upon Success for All. To better understand both the reading component of Roots and Wings and other general issues, the reader is encouraged to review the Success for All profile.

Designed to be used in conjunction with the Success for All reading program, Roots and Wings is a comprehensive model that seeks to provide challenging content and experiences to children in the major core content areas of reading and language arts, mathematics, science, and social studies.

The main goal of the approach is to improve academic achievement in elementary schools. Secondary goals include reducing the number of referrals for special education, reducing the number of stu-

dents who are retained in grade, increasing attendance, and addressing family needs.

Roots and Wings is one of several approaches sponsored by New American Schools, a national initiative to develop replicable schoolwide reform programs. It was created in 1993 by the developers of Success for All, Robert Slavin and Nancy Madden, at the Johns Hopkins University, to extend the Success for All curriculum. Over 1,130 pre-K-6 schools in 44 states have adopted Success for All, with over 200 of the schools using Roots and Wings. The approaches also have been adapted for use in Canada, Mexico, Australia, Israel, and England. Although it is geared primarily to urban environments, a wide range of schools now use the approach. The developers plan to add 400 to 600 schools per year.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. Roots and Wings is a relatively new program, and its research base on student achievement is still marginal. However, the Success for All approach, which provides the Roots and Wings reading curriculum and other program components (e.g., parent support and one-on-one tutoring), has a well-established research base that should be examined when considering Roots and Wings. Three studies are available that look at the student achievement effects of Roots and Wings in other content areas. Two of these studies (one conducted by independent researchers) were sufficiently rigorous to report results here.

In addition, a comprehensive evaluation of this and other sponsored approaches has been commissioned by New American Schools. Five implementation studies also were reviewed, three of which were conducted under contract for New American Schools.

Effects on Students. While research on student achievement effects is still limited, preliminary results are encouraging. Both rigorous studies present data from standardized tests (e.g., the Maryland State Performance Assessment Program, Texas Assessment of Academic Skills, Comprehensive Test of Basic Skills, and Tennessee Comprehensive Assessment Program) indicating that Roots and Wings helps improve student performance across all subjects tested (i.e., reading, language, math, science, social studies). In most cases, improvement was at educationally significant levels. In one study, Roots and Wings schools that scored below comparison groups (e.g., state average, other schools in the district) *before* implementing the approach scored significantly higher than comparison groups when tested *after* implementing the approach.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Schools may need to make a

number of substantial changes to implement Roots and Wings. In addition to the changes required for Success for All (e.g., additional staff, restructured reading groups, possible changes in special education and retention policies), the "MathWings" and "WorldLab" components of Roots and Wings require modifying instructional strategies. In WorldLab, for example, students focus on problem-solving, and teachers are expected to act as guides to students rather than lecturers. As with Success for All, Roots and Wings requires a full-time facilitator and approximately three tutors.

Curriculum and Instruction. According to developers, Roots and Wings emphasizes student-led, cooperative activities. Roots and Wings uses the same reading curriculum as Success for All. (For more details on the reading curriculum, see the *Success for All* profile in this report.)

The developer provides a mathematics curriculum, entitled MathWings, that aligns with the National Council of Teachers of Mathematics guidelines and standards. It has three main components:

- a daily routine of problem solving, facts, homework check, logbook, and team organization;
- a series of units, spanning three to five weeks, that involve the whole class and include project (performance-based) tasks as the introductory lesson; and
- a two-week period, scheduled to occur between most whole-class units, when students are working individually on building or refining skills or investigating additional math topics.

WorldLab, a curriculum that combines science and social studies, encourages students to investigate real-world problems and topics in small groups. Central components of World Lab include:

- a design that promotes an understanding of the interdependence of economic, political, biological, and physical systems;
- use of simulation (role playing), group investigation, and cooperative learning;

- involvement of community resources, (i.e., people in the community who have relevant, specialized knowledge);
- encouragement of problem solving and higher-order thinking; and
- student projects that help solve community problems.

Some of the WorldLab units for grades one and two are *Birds*, *Forests*, and *Harvests around the World*. Units for grades three through six include *Archeology*, *Encounters* (which looks at interactions among cultures from ancient times through the early American settlement), *From Rebellion to Union*, and *Inventors*.

Supplies and Materials. In addition to the curriculum materials for Success for All, Roots and Wings schools use instructional materials that support the WorldLab and MathWings curricula described above.

Scheduling and Grouping. As with Success for All, schools implementing Roots and Wings group students by achievement level for reading. According to the developers, students work in heterogeneous homerooms during MathWings and World Lab. Students also stay in homeroom groups of mixed achievement levels for other subjects.

In addition, the schedule of a Roots and Wings school is structured. The developers require schools to set aside 90 minutes for reading, one hour for math, and 60 to 90 minutes for WorldLab each day.

Monitoring Student Progress and Performance. In addition to Success for All reading assessments, which are administered every eight weeks, Roots and Wings has ongoing informal assessments built into the math and WorldLab curricula.

Family and Community Involvement. Roots and Wings contains the same family and community involvement component as Success for All. This requires establishing a family support team at each school.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. In addition to the extensive training provided for Success for All, the developers provide specific training for the components particular to Roots and Wings over three years of implementation. (For more details, see the *Success for All* profile in this report.)

During the first year, this includes three two-day visits that focus on implementation of the curriculum and two one-day visits that focus on family support. Generally, the developer provides training in one content area at a time so that teachers have time to gain proficiency in one subject before attempting the next. The developer uses an implementation visit record form, which can be used by the schools between visits to track implementation progress. During these visits, the developers also provide technical assistance for implementation. In addition to on-site training and technical assistance, the developer assigns a staff member to work closely with each school over the telephone or through other means of contact. The developer also provides information through a Web site.

Implementation Requirements and Schools' Experiences. The implementation requirements for Roots and Wings closely mirror those for Success for All.

- District and school staff are encouraged to examine program materials and visit other schools to become familiar with the program.
- A secret ballot must be taken in which at least 80 percent of school staff vote to adopt the approach.
- A full-time facilitator must be provided.
- At least one certified teacher tutor and three other tutors must be provided.
- Staff for the family support team must be provided.

Five studies provide information about the implementation of Roots and Wings. A consistent finding is that schools do not generally implement the entire Roots and Wings approach all at once. Many schools start by implementing Success for All, and then add the two additional Roots and Wings components (WorldLab and MathWings) one at a time. Further, there are mixed results when implementing Roots and Wings:

- Implementation was stronger in the early grades than in later grades.
- The components of frequent assessment, longer reading classes, smaller reading classes, and cross-grade regrouping were implemented in most sites. However, teachers had trouble implementing cooperative learning in the upper grades.

COSTS

The first-year cost of adopting Roots and Wings is \$270,000. This includes professional development, including teacher release time; materials; and salaries for a full-time facilitator and an average of three tutors. However, schools can reduce this cost to \$70,000 by reassigning current staff to serve as the full-time facilitator and reading tutors.

Costs depend on the size and location of schools and the number of schools in a district that share training and travel costs. As a low estimate (not including personnel) for the full approach for a school of 500 students, the developers cite a figure of \$70,000 per year for years one through three. This estimate is based on the assumption that the school will implement one aspect of the approach (i.e., Success for All, MathWings, WorldLab) each year. While the school may not choose to use both MathWings and WorldLab, the developers recommend using Success for All before adding either or both Roots and Wings components.

Additional costs, not included in the \$70,000 estimate, are staff, such as a full-time facilitator, and three tutors (according to the developers, these

positions are generally filled by reassigning existing staff); substitutes and release time for training; and development of a family support team.

When additional personnel costs are considered, the figure rises substantially. Estimates from New American Schools detail a yearly cost of \$224,000 to \$324,000, including personnel, materials, training, and other operating costs. The figure varies depending on the number of additional personnel considered. Also, although the figure drops slightly because of decreased training after the first year of implementation, the figure remains high in the second and third years because most of the costs are incurred for personnel. New American Schools estimates costs by year four at \$187,000 to \$287,000, depending on how many staff positions are reallocated versus hired. According to the developers, in Title 1 schools, existing Title 1 staff usually fill the roles of facilitators, tutors, and family support team staff; therefore, these additional costs are not incurred.

Other estimates vary somewhat, but still reflect the substantial personnel costs. For example, Keltner and Reichardt (1998) estimate an implementation cost for Roots and Wings of \$298,900. Estimates of total costs, given by the developers for the original site in St. Mary's County, Maryland, were \$219,738 for the start-up year and \$133,238 for continuing years. Again, all of this may not represent new revenues since existing staff may have been reallocated.

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SCHOOL DEVELOPMENT PROGRAM

Evidence of positive effects on student achievement	●
Year introduced in schools	1968
Number of schools	700
Support developer provides schools	●
First-year costs	
with new staff	\$45,000
with current staff reassigned	\$32,000

● = Strong ● = Promising ■ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The School Development Program (SDP) was founded in 1968 by James Comer, a child psychiatrist at Yale University. The approach is based on the theory that children learn better when they form strong relationships with the adults in their lives—including parents, teachers, and members of church and other community groups—in an environment of mutual respect. The main goal of the program is to develop in students the personal, social, and moral strengths necessary to achieve success in school. The School Development Program addresses these issues with nine essential elements:

- three mechanisms (the School Planning and Management Team, the Student and Staff Support Team, and the Parent Team);
- three operations (the Comprehensive School Plan, the Staff Development Plan, and Assessment and Modification); and
- three guiding principles (no-fault problem solving, consensus decision-making, and collaboration).

The School Development Program was first implemented in 1968 in two elementary schools in New Haven, Connecticut, and now operates in more than 700 schools. It is primarily an approach for elementary schools serving disadvan-

taged students, although it has also been used in middle and high schools.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. The School Development Program has promising research on student achievement effects. Research has been conducted by both the developers and independent evaluators, which lends strength to the findings. Twelve studies that presented student academic outcomes were available. Of these studies, three—one conducted by the developers and two conducted by independent researchers—were considered rigorous enough to report the findings here.

Eleven studies, including detailed case studies and studies collecting both quantitative and qualitative data, report on schools' use of the School Development Program and the factors related to its successful implementation. Four of these studies describe both implementation and student outcomes.

Effects on Students. The three rigorous studies on outcomes indicate that the School Development Program has positive effects on students' achievement. One research review, for example, found that schools using the School Development Program model had significantly higher academic achievement than that of non-School Development Program schools in reading, mathematics, and language, measured by scores on the Iowa Test of Basic Skills and classroom grades. This finding is supported by the other two studies, which found that students in School Development Program schools tended to have higher test scores and grades, and to show greater improvement over time, compared to students who were not in such schools. Research also suggests that effects persist and may increase over time.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Implementing the School De-

velopment Program requires significant organizational change. The developers expect districts using this approach to have a facilitator to serve all schools using the approach. As described above, the three *mechanisms*, three *operations*, and three *guiding principles* must be implemented, each of which affects school organization, staff, and administration.

The first mechanism is the School Planning and Management Team, composed of approximately 12 teachers, parents, professional support staff (e.g., social workers, school psychologists), and paraprofessional staff (e.g., classroom aides, secretaries, janitors). The principal is the group leader. As described by the developers, the School Planning and Management Team has four major responsibilities: (1) establish policies that affect the curriculum, school environment, and staff development; (2) carry out school planning, resource assessment, program implementation, and evaluation of the curriculum, school environment, and staff development; (3) coordinate the activities of all individuals, groups, and programs in the school; and (4) work with parents to establish a calendar of social activities for the school.

The second mechanism is the Student and Staff Support Team, composed of teachers, school psychologists, social workers, special education teachers, counselors, and other support service staff. The Student and Staff Support Team provides input to the School Planning and Management Team on ways to integrate mental health principles into school management, to ensure that the school environment supports the students' learning and developmental needs. The Student and Staff Support Team also supports individual classroom teachers in regard to particular students who may be having difficulties with behavior or learning. The team is expected to meet weekly to discuss students referred by classroom teachers.

The third mechanism, the Parent Team, supports activities to involve parents in the school. There are different levels of participation, so parents can

choose how involved they wish to be. All parents are encouraged to participate in several school-sponsored activities each year, such as a field trip to a museum. These activities allow parents to get to know members of the school staff, so they feel more comfortable with the school. Parents who wish to be involved more directly are encouraged to participate as classroom assistants, tutors, or aides. Finally, parents who are committed to being highly involved can participate as members of the School Planning and Management Team.

The operations that must be put into place include: adopting a Comprehensive School Plan, which lays out specific goals for the school in terms of both climate and academic areas; adopting a Staff Development Plan, which focuses teacher training on needs related to the goals specified in the Comprehensive School Plan; and developing a monitoring and assessment system to track progress toward meeting the school's goals.

The behavior and actions of staff are expected to be guided by three principles.

No-fault problem solving means that, when problems arise, individuals focus on finding solutions rather than assigning blame.

The second guiding principle is *consensus decision making*. The developers believe that consensus decision making is preferable to making decisions by majority vote. The idea is that reaching consensus forces individuals to discuss their differences and understand each other's points of view, while voting forces individuals to choose sides. In addition, voting results in "winners" and "losers," which is not conducive to building strong, mutually respectful relationships.

The third and final guiding principle is *collaboration*, which means that the principal and the teams work together to lead the school reform process.

Curriculum and Instruction. Although no particular curriculum is provided or required, the

developers offer a curriculum called "Literacy Initiatives," for improving reading skills at the elementary school level. The developers also conduct a literacy audit with each school. According to the developers, this involves a review of state and district standards (especially in literacy, but across all subjects) as well as test score patterns over several years. School staff, working with the developers, then are supposed to identify standards upon which to focus.

Supplies and Materials. The School Development Program does not provide or require particular supplies or instructional materials. Decisions regarding supplies and materials are left to the discretion of the school. However, in addition to offering the Literacy Initiatives, the developers are working on "Curriculum Alignment for Instructional Improvement," linking schools' expectations of students with state and national standards, and linking those standards to school curricula, textbooks, tests, and class organization.

Scheduling and Grouping. The School Development Program does not offer guidelines for scheduling classes or for grouping students within classrooms. According to the developers, these decisions should be based on data about student performance and discussions of the school planning and management team.

Monitoring of Student Progress and Performance. According to developers, a key component of the approach is ongoing research on student achievement. A national database that tracks student academic performance, as well as student outcomes on multiple measures of school environment, is maintained. According to the developers, students identified as having reading problems through this process participate in reading labs using work stations.

Family and Community Involvement. The developers believe that parental involvement in the school is essential for students to achieve their potential. The Parent Program provides structured opportunities for parents to become in-

volved in decision making, spend time in the classroom as tutors or aides, or simply participate in social activities involving the entire school community.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. An initial training session to orient participants to the approach is provided in May prior to the first year of implementation. This week-long workshop, held at Yale University, is attended by district facilitators and principals from participating schools; teachers and parents may also attend. The following February, the same group attends a second week-long session at Yale to address instructional and other issues that arise during implementation. At the end of the first year of implementation, principals may attend a Principals' Academy at Yale. The developers also offer an academy for teachers on child development.

Subsequent professional development activities are based on the training needs associated with the school's Comprehensive School Plan, as determined by the School Management and Planning Team. School Development Program staff train local facilitators to provide professional development at the school.

School Development Program staff visit schools twice each year to assess how well the approach is being implemented, facilitate district meetings, and provide guidance and training. Member schools receive quarterly newsletters and have access to a Web site. In addition, the approach offers other professional development activities, including satellite broadcasts, desktop videoconferencing, and regional training activities.

Implementation Requirements and Schools' Experiences. No formal vote is required for schools to adopt the School Development Program; however, it is expected that both school and district personnel have committed to the program after extensive discussion and examination. In addition,

the School Development Program currently is accepting new members only in school districts that either already have or promise to have a sizable number of schools using the approach and have a commitment from the superintendent, board of education, and teachers union. The developers provide an implementation checklist to guide schools' implementation.

Several studies have identified factors that benefit the implementation of the School Development Program. First, the commitment of the principal has been shown to be essential to the successful implementation of the approach. Also, districtwide implementation has proven to be helpful for a number of reasons, including: (1) reducing competition between School Development Schools and non-School Development Schools in a district; (2) increasing the opportunities for networking among teachers; (3) broadening the community of parents; and (4) ensuring central-office support.

Some of the components of this approach are apparently quite difficult to implement. One study found that it was difficult to achieve the desired level of parent participation. Some schools have found that parents for whom English is a second language were hesitant to become involved because they had a hard time following the meetings. Another study found that it was difficult to get all staff on board—there was a tendency for the same group of teachers and parents to be involved with the process, while another group never became involved. Yet, regardless of these challenges, many schools have implemented the School Development Program successfully over a long period of time.

Researchers also have shown that students in schools using the School Development Program had significantly larger gains in various measures of self-concept over time. One study found significant differences on six different dimensions of self-concept: behavior, intellectual and school status, physical well-being, anxiety, popularity, and happiness and satisfaction. Another study

found significant differences only on the intellectual and school status dimensions.

COSTS

The first-year cost of adopting the School Development Program is \$45,000. This includes workshops for five teachers and the principal, including release time; technical assistance; a fee to the developer; and the salary for a quarter-time facilitator. Schools can lower this cost to \$32,000 by reassigning a current staff member to serve as the facilitator.

Districts participating in the School Development Program pay an administrative fee of \$5,000 per year to join. Schools can send staff to the Yale week-long workshops for \$1,000 per person for each workshop. (Developers estimate approximately five teachers per school attend two workshops.) The principal's academy costs \$1,000. School Development Program staff generally make two visits to the school each year for technical assistance, at

\$1,000 per visit plus travel expenses. The program recommends that districts budget for a full-time program facilitator, but notes that schools should be able to operate with a quarter-time facilitator. Additional expenses include staff release time and professional development.

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SUCCESS FOR ALL

Evidence of positive effects on student achievement	●
Year introduced in schools	1987
Number of schools	1,130
Support developer provides schools	●
First-year costs	
with new staff	\$270,000
with current staff reassigned	\$70,000

● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

Success for All is a comprehensive approach to restructuring schools, especially those serving students placed at risk, to ensure that every child learns how to read. The approach has nine components:

- a reading curriculum designed to provide at least 90 minutes of daily instruction in classes regrouped across age lines according to reading performance;
- continual assessment of student progress (at least once every eight weeks);
- one-to-one reading tutors;
- an Early Learning Program for prekindergarten and kindergarten that emphasizes language development and reading;
- an emphasis on cooperative learning as a key teaching strategy;
- a family support team to encourage parent support and involvement as well as to address problems at home;
- a local facilitator to provide mentoring, counseling, and support to the school as needed;
- staff support teams that assist teachers during the implementation process; and
- training and technical assistance provided by Success for All staff on such topics as reading assessment, classroom management, and cooperative learning.

The main goal of Success for All is to ensure success in reading. Secondary goals include reduc-

ing the number of referrals to special education, reducing the number of students who are retained or "held back," increasing daily attendance, and addressing family needs.

The Success for All approach was developed by Robert Slavin and Nancy Madden at Johns Hopkins University. They designed Success for All in response to a challenge from Baltimore City Public Schools to develop an approach that would address the problems of urban students, based on research about effective instructional practice. They established the first Success for All school in 1987. Since then, Success for All (and its companion approach, Roots and Wings) has been adopted by over 1,130 pre-K-6 schools (nearly all Title 1) in 44 states. The approach has also been adapted for use in Canada, Mexico, Australia, Israel, and England. Although still geared primarily to urban environments, the approach is also used by many schools in rural and suburban settings. The developers plan to add another 400 to 600 schools per year.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. The research on Success for All is strong, based on its size and consistency of findings. Sixteen empirical studies, detailing information from about two dozen different sites, were available for review; all but one used sufficiently rigorous methodologies to be reported here. Most studies use a "matched control" technique, in which researchers compare Success for All students with similar students in similar schools. Of the 16 studies reviewed, eight were either authored or co-authored by the developers. Eleven studies also provide information on implementation.

Effects on Students. Compared to control schools, including schools using other approaches that employ one-on-one tutors, Success for All schools show significant improvements in students' reading performance on standardized tests (e.g., Comprehensive Test of Ba-

sic Skills, Woodcock Reading Mastery Tests, and the Durrell Analysis of Reading Difficulty) and other measures. For example, one study showed that Success for All students were achieving at a level of three to eight months ahead of comparison students. Another study showed that Success for All students passed the state functional exam at higher rates than comparison students. Not only does the research on Success for All show statistically and educationally significant improvement in student scores, but it does so consistently across the studies reviewed. The approach has the greatest effect on students who are at risk of school failure (i.e., students scoring in the lowest 25 percent on the pre-test, students in ESL programs and in bilingual programs using the Spanish version of the Success for All curriculum, and minority students).

For all students, the size of reading improvement varies according to level of program implementation. For instance, schools not implementing the eight-week assessments or not providing adequate tutoring do not show as large an effect as schools providing all services.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. Schools may need to make extensive changes to implement Success for All successfully. The first change may be additional staff; schools must have a full-time facilitator to help implement the program, and may need to hire additional teachers or paraprofessionals for the required one-on-one tutorials for struggling students. The facilitator is a certified teacher (generally paid for using Title 1 funds) who coordinates staff implementation of the program. In addition to working with staff by visiting classrooms, coaching, and conducting ongoing professional development, the facilitator supervises the eight-week assessments and serves as liaison among teachers, administrators, tutors, family support staff, and parents. According to the developers, few Success for All schools hire addi-

tional staff; most reallocate current staff to fill required roles.

Second, reading classes may have to be restructured to meet the requirements of the approach. Success for All requires 90 minutes per day of reading instruction targeted to classes grouped by reading level beginning in grade one. Grouping is revised every eight weeks based on individual assessments of students' reading skills.

Third, with regard to special education and retention, Success for All encourages schools not to refer children for special education services and not to retain children in grade. Instead, as discussed below, the program is designed to support all children's learning in general education classrooms. When considering adoption of Success for All, a district may need to consider its policies on one or both of these issues.

Curriculum and Instruction. Success for All uses a highly structured curriculum focused on reading and English language arts. (Its sister approach, *Roots and Wings*, expands into other subject areas.)

The Early Learning Program, for prekindergarten and kindergarten, focuses on developing oral language skills using developer-provided materials. In the Early Learning Program students listen to, retell, and act out stories. In mid-kindergarten or first grade, students begin *Reading Roots*, a beginning reading program in which students work with controlled-vocabulary mini-books and repeated oral reading. *Reading Roots* involves a blend of phonics and "whole language" techniques and uses children's literature and student text supplemented by teacher-read text. Pre-kindergarten through first-grade students almost exclusively use materials provided by the developer.

In grades two through six, students work with another program, *Reading Wings*, which uses a wide range of commonly available basals, anthologies, and novels. The developer requires teachers to use specific strategies in *Reading*

Wings, in which students read stories to each other and discuss content and structure, as well as participate in activities on listening comprehension, vocabulary building, reading fluency, and writing. According to the developer, the reading lessons are fast-paced, with a variety of activities in each lesson, and an emphasis on students learning in cooperative activities.

A Spanish version of the reading curriculum, *Lee Conmigo* or *Exito Para Todos*, is available for students in bilingual and English-as-a-Second-Language programs.

In addition to the writing activities that are part of the reading curriculum, the developer provides a curriculum that focuses on writing. Grades one and two use *Writing from the Heart*, in which students are introduced to the writing process (e.g., write for a real audience, revise, and build skills in the context of writing). Grades three through six use *Writing Wings*, in which teams of four to five students of different skill levels work together. Students write individual drafts that they critique and revise together.

Finally, Success for All includes an extensive tutoring program in grades one through three. Students having difficulty learning to read receive tutoring from certified teachers or other qualified and trained instructional staff. In assigning students to tutors, Success for All gives priority to students in first grade.

Supplies and Materials. Although teachers may adapt materials, the developer requires schools to work with the Success for All materials in prekindergarten through first grade. For grades two through six, the developer provides materials, called "Treasure Hunts," tailored to the reading materials already used in the school. *Treasure Hunts* have been developed to accompany the most widely used basal readers, anthologies, and novels. All new materials are sent to teachers in Success for All schools for review, and are then piloted in Success for All classrooms before being distributed.

Finally, the developer requires schools to have an adequate number of books and other materials to accompany the various components of the approach (e.g., space and supplies for the facilitator, books given as resources to parents, and materials such as books, paper, and pencils to be used during one-on-one tutoring).

Scheduling and Grouping. Success for All requires schools to organize students by reading performance level into multi-age groups of approximately 20 students for at least 90 minutes per day for reading instruction. For the rest of the day, students are in heterogeneous, age-grouped homerooms.

According to the developers, the approach is geared to helping all students learn to read in the regular classroom. The developers' materials suggest that helping students learn to read should vastly reduce the need for placement in special education classes. One of the tenets of Success for All is that children should be removed from the regular classroom only under extreme circumstances and when all other options have been exhausted.

Monitoring of Student Progress and Performance. Success for All requires formal assessments of student progress at least every eight weeks. These assessments are embedded in the curriculum. The results are used to reevaluate reading grouping and change student assignments if needed. Because Success for All attempts to provide reading instruction tailored to the specific level of each student, accurately assessing students and placing them into the appropriate reading group is important.

In addition to formal assessments, ongoing informal assessments of progress are also encouraged. These informal assessments also help to tailor instruction to the specific level of the students.

These regular reading assessments also help to identify students who are struggling before they fall far behind. These students receive one-on-one tutoring for 20 minutes per day at times other

than regular reading or mathematics periods. First-grade students get priority for tutoring.

Family and Community Involvement. Parent support is critical to the Success for All approach. Each Success for All school has a "family support team" to increase family involvement. The goal of these teams is to encourage parents to read to students, to involve parents in school, and to help families address any problems at home that affect a student's ability to learn in school (e.g., by providing referrals to social services). Teams typically include an administrator (principal or assistant principal), the Success for All facilitator, and others such as social workers, counselors, attendance monitors, teachers, and volunteers.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. Professional development and technical assistance for Success for All schools are provided by trainers (members of the developer's staff) and the program facilitators at each school. Trainers typically are former teachers, principals, or facilitators in Success for All schools.

In the spring before implementing Success for All, the principal and facilitator attend a week-long training session. Late in the summer of that year, Success for All staff visit the school to provide a three-day inservice for all staff that introduces them to each component the school is implementing.

During the first year, the developer provides several days of follow-up with the principal, facilitator, and instructional staff. This support includes three two-day follow-up visits (also known as "implementation visits") that focus on implementation of the curriculum, plus two one-day visits that focus on the family support team. The developer uses an implementation visit record form, which can be used by the schools between visits to track implementation progress.

Every spring, the developer provides regional conferences for experienced schools. The principal and facilitator are expected to attend; many teachers also choose to participate.

The developer provides full technical assistance services for three years at minimum (including site visits, consulting over the telephone, and access to materials and a Web site). After the third year, developer support for professional development continues at a lower level. However, the facilitator remains at the school to guide the approach, and may continue to call the developer with questions.

Implementation Requirements and Schools' Experiences. Prior to implementation, the developer of Success for All requires the following:

- District and school staff are encouraged to examine Success for All materials and visit Success for All schools to become familiar with the approach.
- A secret ballot must be taken, in which at least 80 percent of school staff vote to adopt the approach.
- A full-time facilitator must be provided.
- At least one certified teacher tutor and three other tutors must be provided.
- Staff for the Family Support Team must be provided.

According to the research on implementation, the cost and time requirement of the approach are difficult for some schools to manage. Most studies found that all components were implemented, but some more comprehensively than others. For example, some schools found it difficult to fund and manage the large number of tutors and other additional personnel (family support personnel, counselors, etc.). Consequently, after a few years, some schools opted to scale down the approach. Some schools have significantly decreased or even eliminated the family support and the one-on-one tutoring components of the approach—which the devel-

oper believes are crucial. In addition, many schools have discontinued or scaled back the required eight-week assessments—another crucial aspect of the approach, according to the developer. Not only replication sites but also several of the original sites in Baltimore have engaged in this scaling back or eliminating of components.

COSTS

The first-year cost of adopting Success for All is \$270,000. This covers professional development, including teacher release time; materials; and salaries for a full-time facilitator and three tutors. However, schools can reduce the cost to \$70,000 by reassigning current staff to serve as the facilitator and reading tutors.

Costs depend on the size and location of schools and the number of schools that share training and travel expenses. As an example, the developer's estimated base costs for a school of 500 students are as follows: \$70,000 for year one, \$30,000 for year two, and \$20,000 for year three and later years. Additional costs not included in this estimate are staff such as the full-time facilitator and at least three tutors (according to the developer, these staff are generally reallocated from existing positions); costs for substitutes and release time for training, and costs for developing and organizing a family support team.

If staff are hired rather than reassigned from existing positions, the figure rises substantially. In one cost comparison, the estimated yearly personnel costs for a Success for All school with 500 students range from \$195,000 to \$530,000 per year. The low estimate includes a facilitator, two reading tutors, a parent liaison, and a half-time social worker. The high estimate includes a facilitator, six reading tutors, a parent liaison, two social workers, a counselor, and a half-time attendance monitor. Adding personnel costs to training costs—one low estimate is \$66,060—provides an estimated range of \$261,060 to \$646,500, depending on the number of person-

nel. As most of the cost is associated with additional personnel, it should be assumed not to vary widely from the first year to subsequent years.

Another study estimates first-year costs to range from \$160,500 to \$340,500. In part, the difference between the figures in the two studies is due to the fact that one study assumed the use of para-professionals as aides and the other assumed the use of certified teachers.

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TALENT DEVELOPMENT HIGH SCHOOL WITH CAREER ACADEMIES

Evidence of positive effects on student achievement	●
Year introduced in schools	1994
Number of schools	10
Support developer provides schools	●
First-year costs	
with new staff	\$57,000
with current staff reassigned	\$27,000

● = Strong ◐ = Promising ◑ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The Talent Development High School divides large, urban high schools into smaller units ("academies"), including a Ninth Grade Success Academy and academies based on career themes for students in the upper grades. The approach aims to reorganize students and teachers in the school and to change instruction to focus on students' academic needs and career interests. The developer specifies the structure of the changes and provides guidance and some curriculum materials; the school staff is expected to determine the specific themes for reorganization and to revise curricula and instruction accordingly.

The primary goal for the Talent Development High School is to improve achievement and other outcomes (e.g., attendance, dropout rates) for all

students in large high schools by creating a personalized environment that focuses on students' interests within an academic core of courses.

Research on dropouts influenced the design of the approach. This research indicates that students drop out of school for four reasons: anonymity or social estrangement; apathy or lack of purpose; failure, especially in ninth grade; and personal problems such as drugs or pregnancy. To address these problems, the Talent Development approach breaks the school into small units with a career focus, provides extra help to failing students, and provides an alternative school and counseling to help students with personal problems.

The Talent Development approach was developed by the Center for Research on Students Placed at Risk (CRESPAR) at Johns Hopkins

University. The first Talent Development High School was planned during the 1994-95 school year and implemented in the 1995-96 school year. In fall 1998, 10 schools were using the model, mostly in Baltimore and Philadelphia.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. This is a relatively new approach, and the research base is still marginal. Only one rigorous study on the student achievement effects of the approach was available for review. This study, conducted by the developer, measured results in the first Talent Development High School. The same study also provides implementation data for this pilot site.

Effects on Students. The one study examining effects on students shows encouraging results for achievement and attendance. Compared to other schools in the district, the Talent Development High School showed greater improvement over two years as measured by the proportion of students passing the Maryland Functional Exams. The improvement was substantial in mathematics, but small in reading and writing. The percentage of students who were retained in grade also dropped substantially since the school began using the Talent Development model in 1995.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. The developer requires schools to establish a Ninth Grade Success Academy and several Career Academies for grades ten through 12. Each academy is self-contained, with its own faculty, management team, section of the building, and entrance. The Ninth Grade Academy is further divided into interdisciplinary teams of four teachers from different content areas, with a maximum of 150 to 180 students per team. Schools typically have from two to six Career Academies, with a maximum of 300 to 350 students in each academy.

Talent Development High Schools are required to appoint an assistant principal and a teacher leader as the management team for each academy. Schools also must have one half-time organizational facilitator in the planning year, and two half-time facilitators in the next two implementation years. If the developer determines that an organizational facilitator is still needed after the initial year, the second facilitator will be an instructional facilitator for the highest-priority academic area (English or math). If an organizational facilitator is no longer required, the school will have two instructional facilitators, one in English and one in math. After the second implementation year, the developer expects that the school will have built enough internal capacity to no longer need the instructional facilitators.

Curriculum and Instruction. Each academy offers the same core academic courses (i.e., English, mathematics, science, and history) so that students in any academy will meet college entrance requirements. Core courses use readings and assignments that reflect the academy theme. The faculty of each career academy selects topics and develops curricula for elective courses and internships that are consistent with the academy theme. An advisory board of potential employers guides this process.

The developer has produced two curriculum packages for English: Student Team Literacy and Student Team Writing. Both involve cooperative learning instructional strategies. There are two other curricula: Transition to Advanced Math, designed to teach students with weak mathematics backgrounds the basic skills required to take algebra; and the Freshman Seminar, designed to develop social skills, study skills, and career awareness.

According to the developer, Talent Development also provides students with "recovery chances"—opportunities outside of the regular school day to make up courses they have failed. Ninth-grade students working below grade level are required to take twice the normal course load in English and

mathematics, spending 90 minutes a day in each subject. The extra course work replaces electives, such as physical education and art. Students working below grade level also have access to coaching classes before or after school, peer tutoring, computer drills, summer school, Saturday school, and evening school for academic credit.

An alternative after-hours program, the Twilight School, is conducted in the building for students who have serious attendance or discipline problems (including students recently released from prison or suspended from another school). Instruction is offered in small classes in the basic subjects, and extensive services are provided by guidance and support staff. The developer estimates that in a school of 2,000 students, the Twilight School would involve four teachers and 120 students.

Students who are working above grade level have access to advanced courses, televised courses offered at other locations, courses at local community colleges, and internships.

Supplies and Materials. The developer requires schools to use its curricula (described above) and to use the Talent Development guidebooks during the planning year. No other specific materials or supplies are provided or required.

Scheduling and Grouping. Students and staff are grouped into several Career Academies. Each academy organizes its own schedule, within the structure of a four-period day. To help students choose the Career Academy they wish to join in tenth grade, students in ninth grade complete an inventory of their interests (the Holland Career Interest Inventory). Upper-grade students take most of their classes within their academy; on rare occasions, a student may choose to take an elective class in another academy that is not offered in the student's home academy. Each academy enrolls students of different achievement levels.

Instructional staff within each academy are required to have a common planning period. Stu-

dents stay with the same homeroom advisory teacher for grades ten through 12.

Monitoring Student Progress and Performance. The developer encourages schools to assess student progress using district test scores; weekly attendance by class, grade, and academy; and student and teacher surveys. Teachers within a subject are required to use common midterm and final exams to ensure that students in different academies are held to the same standards. Talent Development High Schools are expected to use a modified report card that shows a student's improvement as well as achievement.

Family and Community Involvement. The developer emphasizes family involvement as an important part of the Talent Development approach. The Talent Development High School uses the Epstein six-fold parent/school partnership approach, which teaches a team of teachers, administrators, and community members six strategies to involve parents (e.g., sending information home, assigning homework that involves parents, asking parents to volunteer at the school). The team chooses one of these strategies to involve parents, and then plans and carries it out.

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. During the planning year, all staff members participate in professional development activities at the school for two hours every other week. School staff members progress through an academy formation process that involves academy development, faculty selection, marketing, student selection, pathway development, facility changes, and scheduling. Ninth-grade teachers are trained to work together as a team. All teachers participate in professional development on how to teach using an extended course period (e.g., strategies such as small-group instruction). As part of their professional development, teachers reorganize the traditional 18-week course se-

quence to fit into the new four-period day. The developer also provides monthly professional development sessions in which teachers learn new methods to teach specific subjects.

During the summer between the planning year and the first implementation year, the developer provides professional development for school staff, including:

- how to work as a team (three days for Ninth Grade Academy, all staff);
- leadership training (three days for Academy leaders and principals);
- training in the Student Team Literacy and Student Team Writing curricula (three days for Ninth Grade Academy English/reading teachers);
- training in the Transition to Advanced Math curriculum (three days for Ninth Grade Academy mathematics teachers);
- training in the curriculum for Freshman Seminar (one day for the Ninth Grade Academy);
- how to make teaching and learning active for a 90-minute period (two days for all staff).

After the planning year, professional development increases to two hours every week, and training focuses on using new curriculum units provided by the developer. The facilitator checks with ninth-grade teachers once a month on their use of the English/reading and mathematics curricula. Teachers coach each other in the areas specified in the school professional development plan (e.g., technology, active instruction, and using the extended period).

The developer requires Talent Development schools to use facilitators as they plan and implement the approach, as described above. Facilitators are experienced teachers, trained by the developer, who have taken one or two years of leave to help implement the approach. In the planning year, the organizational facilitator

guides program planning (i.e., developing a steering committee to form academies, dividing the school building into different academies, and establishing a four-period day). In the implementation years, developer staff and instructional facilitators in English and math provide ongoing coaching and guidance as school staff reorganize the school and the math, science, history, and language arts curricula.

Implementation and Requirements and Schools' Experiences. Schools must meet a set of goals and a timeline for each stage of implementation, including staff awareness, application process, planning year, and first implementation year. For the application, the developer strongly recommends that a member of the Talent Development staff present the program to school staff, parents, and community members, and that all those involved review materials on the program. Schools are required to complete an application process, which includes an 80 percent vote of approval from staff, before planning the local design.

Once a school decides to use the Talent Development approach, it spends one year in a planning phase. The school is required to establish a steering committee of teachers, leaders, and principals that reviews proposals and selects themes for Career Academies (based on the interests and qualifications of teachers, job opportunities, and coverage of broad career categories). Each faculty member selects the academy he or she would like to join. The school principal then selects a management team for each academy, consisting of an Academy Principal and an Academy Instructional Leader, who then markets the model through brochures and presentations. Each student may select the academy of choice, guided by the Holland Career Interest Inventory and presentations by academy teachers.

During the summer between the planning and first implementation years, schools revise their schedules to a four-period day. Before school opens after the first implementation year, the physical layout of the school is reorganized: sepa-

rate entrances for each academy must be built or assigned, and teachers in the same academy move to a common area in the building. The Twilight School, summer, and Saturday school programs are established.

The developer recommends that schools take three years to implement the approach (one planning year and two implementation years). The first areas of focus are reorganizing the school into academies, improving student attendance, and providing assistance to struggling students to ensure they are promoted to the next grade. Next, schools focus on instruction; at this stage, teachers attend professional development on instructional strategies, and principals plan to acquire necessary resources (e.g., computers, textbooks, additional staff).

The developer evaluates the school's implementation of the approach with spring surveys of students and staff, periodic interviews with a sample of staff and students, and progress reports from principals, academy leaders, and teachers.

Based on the limited research conducted to date, there is adequate implementation support for the Talent Development High School. In the first pilot school, the approach was implemented at the developer's intended and expected time schedule. Because implementation research was only available for the first Talent Development school, it is impossible to judge how easy it will be to replicate the approach in additional schools.

COSTS

The first-year cost for a school of 500 students to adopt Talent Development High School is \$57,000. This cost covers professional development, including teacher release time and stipends; materials; building renovations; discretionary funds; and additional staff. However, schools can reduce this cost to \$27,000 by reassigning current staff to fill the role of the half-time organizational facilitators.

The developer estimates costs for a school of 2,000 students (or four times the first-year estimate given above) because the approach was developed for large high schools.

In the planning year, the developer reports, the Talent Development school could expect to spend \$52,100 plus release time for professional development and facility changes. This sum includes \$41,000 paid to the developer to cover a half-time organizational facilitator (\$30,000); ten days of expert consulting, including travel (\$10,000); and guidebooks for each teacher for the planning year (\$1,000). The school would spend the remaining \$11,100 on: brochures to market the academies (\$2,500 for five academies); Holland Career Interest Inventories for all students except seniors (\$3,600); facility adaptations and academy signs (estimated at \$5,000); and \$2,000 to \$5,000 in discretionary funds for unplanned expenses. Finally, schools must cover professional development time (four hours per month, per teacher for nine months).

In the summer, between the planning and first implementation year, the school should expect to spend \$47,130 for professional development (also included in the cost estimate for the first year). Of that sum, \$9,850 would be paid to the developer to cover trainers, travel, and materials. The remaining \$37,280 would be spent by the school on stipends, food, and the training facility.

After the planning year, the 2,000-student high schools should expect to spend \$76,500 per year, for two years. Of that total, \$72,400 goes to the developer for: two half-time facilitators (\$30,000 each); monthly visits and weekly phone calls by a consultant to help teachers use the literature curriculum (\$6,000) and the mathematics curriculum (\$6,000); and materials for a leadership meeting and ninth-grade attendance workshop (\$400). The remaining \$4,100 would be spent by the school on brochures for academies (\$2,500) and Holland inventories

(\$1,600). During the implementation period, schools also should expect to pay for any additional professional development and additional renovations to the building (e.g., creating new entrances) as needed, in addition to expenses for the Twilight School.

These costs do not include time during the school year for teachers to plan changes in curriculum and instruction. The developer estimates between 20 and 40 hours per teacher per year. In addition, schools are encouraged to create science laboratories in the Ninth Grade Academy section of the building, install a public address system for each academy, and provide discretionary funds for each academy (\$2,000 to \$5,000 in the planning year and \$5,000 to \$10,000 for the first implementation year).

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URBAN LEARNING CENTERS

Evidence of positive effects on student achievement	?
Year introduced in schools	1993
Number of schools	13
Support developer provides schools	●
First-year costs	
with new staff	\$169,000
with current staff reassigned	\$159,000

● = Strong ● = Promising ◐ = Marginal ○ = Mixed, Weak ? = No Research

OVERVIEW

The goal of the Urban Learning Centers approach is to provide an academically rigorous curriculum that connects across grade levels and is supported by parents and the community. The approach can be broken down into three parts:

- teaching and learning;
- governance and management; and
- learning supports.

The approach attempts to improve student learning, meet the learning needs of students who are at risk of school failure, restructure school organization, increase family and community involvement, increase access to non-academic services, improve school climate, redefine relations among

teachers and others, and expand the roles of classroom teachers.

Urban Learning Centers is one of several approaches sponsored by New American Schools, a national initiative to develop replicable school-wide reform programs. It is a collaboration of the Los Angeles Unified School District, United Teachers of Los Angeles, and the Los Angeles Educational Partnership. The approach started in Los Angeles with two centers—Elizabeth Street in July 1993 and Foshay in July 1994. Two additional schools began implementing the approach in 1996. As of January 1998, the approach was being used in 13 urban schools in California, with more than one learning center at the larger (K-12) schools. Urban Learning Centers encompass grades from pre-kindergarten to 12. The devel-

oper intends to add 30 to 40 new centers in 1998-99 and maintain this rate of growth over the next three to five years.

EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

Strength of the Research Base. Urban Learning Centers is a relatively new approach, and no rigorous studies on student achievement are yet available. Although four publicly available studies report data on student outcomes, they do not use sufficiently rigorous methodologies to be included here. However, the developer collects and makes publicly available test score data on Urban Learning Centers.

No research was available about replication of the model in diverse sites. Although the developer states that the approach is appropriate for all types of students at all types of schools, the research only reports on urban, Los Angeles schools with high proportions of students at risk of failure. Three studies provide information about the implementation of this approach.

Effects on Students. At the time of this report, there are no studies of sufficient rigor upon which to base conclusions about the effects of Urban Learning Centers on student achievement.

CENTRAL COMPONENTS

Organizational Change, Staffing, and Administrative Support. The Urban Learning Centers approach requires changes in school organization to address three areas: teaching and learning, governance and management, and learning supports. According to the developer, the approach can accommodate other reforms also underway in the school.

The developer also claims that the Urban Learning Centers approach facilitates a curriculum and school environment that develops connections among subject areas and across grade levels. This includes multi-age classrooms; multi-year teach-

ing assignments; articulation across elementary, middle, and high school curricula; cross-age tutoring; and student peer-support systems. The developer recommends, but does not require, that schools extend learning time for students through after-school, Saturday, and intersession classes. Common planning time for teachers also is recommended.

The Urban Learning Centers approach may require changing the governance and management of the school. The developer recommends a collaborative approach to governance and management and a decision-making process that includes parents, community members, school staff, teachers, and administrators. Despite this emphasis on local management, the developer indicates that the model can be instituted even in school systems with large bureaucracies, as evidenced by the two original Urban Learning Centers in the Los Angeles Unified School District.

There are no specific staffing requirements at the school level. Several schools have at least one full-time and one half-time coordinator. The coordinators generally are current staff members who are reassigned.

Curriculum and Instruction. The Urban Learning Centers approach does not provide or require a specific curriculum. It does, however, encourage the development of a curriculum that is focused on literacy and students' critical thinking skills in all subject areas. This curriculum, which should be in line with an approach providing consistency across grade levels, should be organized into thematic and interdisciplinary units. The developer also indicates that the school staff should modify curricula to be consistent with district and state curriculum and performance standards.

The developer encourages teachers to use a variety of instructional techniques (e.g., student-centered instruction, direct instruction). The developer also emphasizes that clear expectations should be set for students with regard to what they are supposed to know or be able to do (e.g., share

the grading criteria with them, show them examples of good products), and that teachers should strive to make learning an active experience that engages student interest.

Supplies and Materials. No specific materials are provided or required. The developer emphasizes technology as critical to the approach, however. The Urban Learning Centers environment attempts to create a strong link between the classroom and the world outside the classroom through the use of technology.

In addition, the developer notes that many Urban Learning Centers make use of resources available in the community (e.g., libraries, local museums, local attractions, and local experts on different topic areas), even though such resources are not explicitly provided.

Scheduling and Grouping. The developer recommends that students be arranged in mixed-ability classes and that teams of teachers teach together and collaborate on instruction. The developer also recommends using a variety of scheduling and grouping formats, such as scheduling long blocks of time for instruction in several subjects, grouping students of different ages together, and keeping students together for more than one year.

Monitoring Student Progress and Performance. The developer encourages the use of traditional assessments (e.g., quizzes and tests), as well as collections of student work (e.g., writing samples and presentations). In addition, specific goals are stipulated in each of the three main component areas of the program (teaching and learning, governance and management, and learning supports). For instance, on one component of teaching and learning—literacy—the expectations are that students:

- read with fluency and comprehension;
- flexibly change their reading style for different purposes;
- are well-read across a variety of genres, at or above grade level; and

- comprehend, analyze, and appreciate text and non-print media.

There is also an emphasis on meeting state and local standards for student achievement.

Family and Community Involvement. The developer assists schools in developing a variety of support strategies, including crisis assistance for families (e.g., family violence or drug abuse), support for transitions (e.g., information and support for families as they enter the program), outreach to the community, and any additional assistance needed by the student or family. Schools may select the most appropriate strategies for their situation, but are expected to establish a family and community center at the school for parent activities, child care, and access (e.g., referrals) to health and social services.

Parent and community involvement is encouraged, including using parents as community representatives, establishing extensive volunteer programs, and providing adult education services (e.g., English as a Second Language, computer skills, and parenting skills).

SUPPORT THE DEVELOPER PROVIDES SCHOOLS

Professional Development and Technical Assistance. In the first year of implementing the approach, the developer provides professional development to both staff and parents on implementing the approach and networking with other schools. This may last for a single session or may be followed by additional training. Also in the first year, schools conduct a self-assessment to develop a long-term improvement plan. As a part of the self-assessment process, the developer provides a guide for schoolwide self-assessment, thus allowing school staff to rate their strengths and weaknesses in each of three main areas: teaching and learning, governance and management, and learning supports.

Professional development activities are then geared to meet the needs identified by the school

(e.g., setting goals, or collaborating with other schools in the same feeder pattern). The developer provides workshops and seminars, and facilitates peer coaching, visits to other schools/classrooms, and participation in a network of teachers involved in the program.

Finally, the developer assists schools in creating three key locations at the school or group of schools:

- a Product Development Center, which is a center for multimedia technology designed to help students and teachers create projects for enhancing student literacy and learning and supporting the content standards;
- a Family Center, including trained staff and technology tools, that coordinates student and family services;
- a Teacher's Toolbox, which gives teachers access to electronic and print information and resources geared toward enhancing student projects and teacher-directed curricula.

Implementation Requirements and Schools' Experiences. Implementing the Urban Learning Centers approach does not require a formal vote of teachers, but does require that a leadership council of those who would be involved in the reform reach agreement. Subsequent to this consensus, the developer asks that the following steps be taken:

- Present the idea to all faculty.
- Work with the school board to establish a school-based governing team and design team.
- With the project design team, complete a self-assessment of the three main areas of the program using the guidelines provided.
- Establish goals and indicators of progress for the school.
- Plan for integrating technology into the learning environment and, if needed, acquiring additional technology.

- Establish links to outside resources, such as social service agencies.
- Make any necessary scheduling or grouping changes (e.g., extended year or extended hours, expansion of ages of children served, or multi-age grouping).
- Within teacher-directed teams, plan and map out the specific curricula.

The research on implementation focuses on the two original Urban Learning Centers. In both schools, most teachers supported the approach before implementation. However, some teachers were not prepared for, or interested in, assuming the nonteaching responsibilities central to the approach (e.g., sharing in school-level decisions).

According to the research on a small sample of schools, the Urban Learning Centers approach is often implemented alongside other reforms. In some cases, the reforms seem consistent or complementary, sometimes to the point where teachers do not feel that they are using anything new; in other cases, the teachers appear overwhelmed by the effort to juggle multiple efforts.

Although the developer emphasizes that schools set their own strategies for change using this approach, and that the approach is unique in each school, there appear to be some commonalities. Both of the original Urban Learning Center schools used these strategies: instruction that integrates more than one subject, scheduled in long blocks of time, with several teachers working together; a focus on outcomes and use of portfolios of students' work to assess progress; diverse instructional strategies such as hands-on learning; more authority for school governance given to teachers, parents, and students; and support services, such as a family center, medical clinic, and referral process.

According to the research, the first year was spent raising awareness of new teaching and organization strategies; the second year was spent experimenting; and the third year was spent reflecting on and improving the use of these strategies. By

the end of the third year, schools were still expanding their use of these practices. However, neither school reached "full implementation" in which the entire school used these strategies.

The professional development provided by the Urban Learning Centers is clearly of good quality. According to the research and a small sample of sites, the trainers were knowledgeable and professional, and the Urban Learning Centers staff provided close guidance and technical assistance that was responsive to schools' needs. However, in some cases, this responsiveness may have been counterproductive to effective reform. For example, one study suggests that schools' professional development selections were not always in the areas that needed the most improvement.

According to research, major barriers to implementing the Urban Learning Centers approach were teacher resistance, inadequate time for planning and training, inflexible daily and annual schedules at the school, difficulty with communication among staff, and lack of accountability for following through on implementation. Capacity to maintain the approach is an important issue; according to the developer, both of the model sites have reallocated funds to create staff positions to support implementation. However, one study indicated that a loss of funding caused a school to cancel a successful tutoring program and not provide some professional development.

COSTS

The first-year cost of adopting Urban Learning Centers is \$169,000 for a school of 25 teachers. This cost covers professional development, in-

cluding teacher release time, and additional staff. However, schools can reduce this to \$159,000 by reassigning current staff to fill the role of the part-time coordinator.

The developer estimates costs for a school of 50 to 75 teachers, as this approach is targeted toward large, urban schools. Costs paid to the developer are negotiable but average about \$75,000 per year for a school with 50 to 75 teachers (costs will vary by number of teachers). Included in this estimate are training and technical assistance, materials, and a part-time coordinator.

Additional costs that are not included in the cost estimate are the optional full-time coordinator and release time for teachers for professional development and planning activities (e.g., more than 20 days of paid professional development were offered at Elizabeth Street Learning Center). In addition, there may be extra costs for technology and other materials (e.g., a product development center).

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APPENDIX A

CRITERIA USED TO EVALUATE EVIDENCE OF POSITIVE EFFECTS ON STUDENT ACHIEVEMENT

The review of the research on the approaches' effects on students was conducted in two stages. First, AIR collected all available studies that reported student achievement effects (e.g., test scores, grades, dropout rates, graduation rates) and critically reviewed them for methodological rigor. At this stage of the process, the research was rated based on important distinctions among studies, such as scope (e.g., number of students and schools, period over which data were collected), quality and objectivity of the measurement instruments, and affiliation of the researcher (i.e., did the researcher have a vested interest in the outcomes).

Second, AIR assigned to each approach an overall rating for evidence of effects on student achievement, based on the number of studies that met the criteria for methodological rigor and the strength of the data showing positive student achievement effects reported in those studies. Because important methodological issues were addressed in the first stage, AIR did not consider the methodological rigor of individual studies in the second stage.

Reviewing Studies for Methodological Rigor

Review Process

AIR made an extensive effort to gather and review all relevant material about each approach. Altogether, AIR reviewed over 130 student achievement studies, as well as numerous items that were not, ultimately, deemed appropriate for inclusion.¹ In a few instances, developers recommended additional studies late in the review process, after they read the first draft of the profiles of their approaches. AIR attempted to acquire and review these materials. Fewer than five studies, identified very late in the process (i.e., the final two or three days of the project), were not included in the review.

All studies that reported student achievement effects were reviewed and rated using an instrument developed for this type of research review and tailored to this project, the Evaluation of Research on Educational Approaches (EREA).²

One of seven trained researchers reviewed each study individually using the EREA. The training process involved the researchers independently rating a sample study and collectively discussing the rationale behind their ratings. In areas where discrepancies occurred, standard processes were developed, recorded, and distributed to all researchers.

Each researcher reviewed all of the studies for several reform approaches. Each researcher also reviewed a sample of studies being reviewed by fellow researchers. One out of every five studies was reviewed by two or more staff. The overlapping studies were used to maintain inter-rater reliability. The project director compared ratings for these overlapping studies and, in cases of discrepancies, retrained the researchers

and clarified the issues for all raters. For example, early reviews revealed different approaches to rating areas where information from the developers or studies reviewed was unclear. AIR developed a standard process, retrained researchers, and revisited ratings for all studies previously reviewed.

Review Criteria

Guided by the criteria in the EREA, we assigned each study a rating based on its overall methodology. The EREA contains a total of seven sections. The questions used to calculate the methodology rating are found in two sections ("levels") of the EREA, Level 3 and Level 4. The other five sections capture information on implementation (Levels 1 and 2), or are used by the reviewer to summarize the findings from Level 3 and Level 4 (Levels 5, 6 and 7).³

Across Levels 3 and 4, each study was rated in 10 categories: 1) construct validity; 2) the higher of two ratings—internal validity or study design; 3) duration; 4) sample bias; 5) external validity; 6) statistical conclusions; 7) measures; 8) sample description; 9) and 10) study clarity (rated at both Levels 3 and 4). Each of the 10 categories carried equal weight, to a maximum of four points. The 10 individual ratings then were averaged to form a final methodology rating for the study; studies with an average rating of 3.00 or above met the criteria for rigor.

This approach was deliberately chosen to accommodate varied study designs by focusing on the overall methodology rather than a single critical element of methodology. For example, a highly quantitative analysis of test scores might provide a limited description of the sample studied, but compensate by including a very large number of subjects and using random assignment to a control group. A longitudinal case study might use a small sample, but compensate by collecting data over a long period of time and providing rich descriptions of the treatment and sample. The questions used to rate studies are described below.

Level 3: Does the study satisfy minimal validity criteria? AIR assessed the degree to which each study satisfied minimal validity standards related to the following six categories:

- *Construct validity:* Did the study focus on the construct (e.g., mathematics achievement) germane to the analysis? Did the study include measurable dependent variables? Did the dependent variable measure the construct under analysis? Did the study report the effects of the approach? If the answers to these questions were "yes," the study earned the highest rating, four points. If one answer was "not clear," the study earned three points. If there were multiple "not clear" responses, the study earned two points. If any of the questions were answered "no," the study earned one point. Because AIR sought to review studies that reported measurable student achievement outcomes, very few studies did not earn four points in this area.
- *Internal validity:* What research methodology was used to assess the approach (e.g., true experimental group design, case study, quantitative synthesis)? Was it cross-sectional or longitudinal? If the methodology was a true or quasi-experimental group design or quantitative synthesis, the study earned four points. If the methodology was any other design, but the study was longitudinal (i.e., at least three years of data), the study earned three points. If the methodology was multiple-baseline or narrative synthesis and the study was cross-sectional, the study earned two points. Any other design earned one point.
- *Duration:* What was the duration for data collection? If data were collected over at least three years, the study earned four points. If the duration was between one and three years, the study earned three points. If the duration was between six months and one year, the study earned two points. If the duration was less, the study earned one point.
- *Sample bias:* Were students kept in the study regardless of low performance? Were students' results reported in the findings regardless of low performance? Was the attrition rate below 20 percent? Were both experimental and control sample selections a priori rather than post hoc? If the answer to these questions was positive, the study earned four points. If there were one or two "not clear" responses, the study earned three points. If there were three "not clear" responses, the study earned two points. If any of the answers was "no," the study earned one point. In general, studies tended to keep students

in the study and findings, regardless of performance, but many studies suffered from high attrition rates (especially longitudinal studies) or post hoc sample selection.

- *External validity:* How many students were in each condition? How many classes? How many schools? If the study involved at least 50 students, at least five classes, and at least five schools per condition, it earned four points. There was some flexibility on any one of these points. Fewer students, classes, and schools resulted in fewer points on external validity.
- *Statistical conclusions:* Did the study provide sufficient quantitative information to permit calculation of statistical effects? Were appropriate statistical tests used to analyze data? If the answer to both questions was "yes," the study earned four points. If one was "not clear," the study earned three points. If both were "not clear," the study earned two points. If either answer was "no," the study earned one point. Many studies provided some quantitative information but not enough to calculate effect sizes. For example, some studies provided means but not standard deviations, or percentiles but not number of participants.

Level 4: Are differences between groups attributable to the approach? AIR assessed the degree to which each study satisfied internal validity standards in three areas:

- *Study design:* What type of comparison or controls did the study use? Of the 10 experimental designs described in this section, the designs warranting four points were: randomly assigned subjects, stratified sampling, randomly assigned intact groups, and stratified randomly assigned intact groups. Designs that earned three points were: a priori match on demographic and achievement characteristics, group comparability at pretest on critical measures, a priori match on demographic characteristics, or statistical adjustment for small a priori differences. Studies using pre-post designs, including case studies, earned two points; other designs involving controls earned one point. This category, study design, is very similar to the internal validity category in Level 3. However, the ratings in the study design category tend to favor quantitative studies, while the ratings in the internal validity category tend to favor longitudinal case studies. The final methodology rating was calculated with only the higher of the two ratings—internal validity or study design—in order to give strong quantitative and strong qualitative studies similar weight.
- *Measures:* Were measures adequately described or commonly recognized? Were they reliable ($r > .75$)? Did they assess skills taught in both experimental and control conditions? Was more than one measure of outcome used? Were some measures developed by someone other than the experimenter? Were data collected and analyzed by researchers other than the approach developer? Was adequate information available to assess degree of implementation? Did the study provide information on materials, roles, participants, and length of intervention? Were differences between conditions limited to the approach? To calculate the rating for this category, total earned points were divided by total possible points (generally excluding questions that are marked "not clear" unless there is a substantive reason to include them), and this ratio was multiplied by four to create a four-point scale.
- *Sample description:* Did the study indicate that the approach was implemented in settings representative of actual instructional conditions? Were other instructional differences between groups (e.g., age, ethnicity, setting) described and adequately controlled? To calculate the rating for this category, total earned points were divided by total possible points (excluding questions that are marked "not clear"), and this ratio was multiplied by four to create a four-point scale. Very few studies earned below four points on this category for two reasons: 1) very few studies were not set in representative conditions and 2) very few studies identified differences between comparison groups and do not control for those differences. Many studies did not identify differences, and so received "not clear" ratings, for which they were not penalized in the sample category rating. However, this lack of information was captured in the study clarity rating described below.

Study clarity. In addition to the substantive areas listed above, studies were rated on the clarity of information in Level 3 and Level 4. The intent here was to identify studies that systematically provided inadequate data to understand the methodology or replicate the study. Within each category listed above (e.g., sample bias, statistical conclusions), studies were penalized minimally for one or two "not clear" responses; however, the study clarity rating targeted studies with patterns of frequent "not clear" responses. Within Level 3 and Level 4, the proportion of "clear" responses was standardized to a four-point scale to calculate a clarity rating, for a total of two study clarity ratings.

Assigning Ratings for Evidence of Effects on Student Achievement

Review Process

Next, AIR summarized the strength of the research for each approach—with an emphasis on findings from studies with a methodological rating of 3.0 or above—using the rating criteria presented below. Because there was limited research on the effects of the approaches, a difference of one study could be quite meaningful. For example, an approach with a marginal research might have had one study; a single additional study would have doubled the information available.⁴

AIR researchers used Levels 5, 6, and 7 of the EREA to summarize findings from each study (Level 5), make conclusions about the methodological strength of the study (Level 6), and rate the evidence of effects of the approach overall (Level 7).

Level 5: Is the approach effective as determined by scientifically valid research methods? AIR reported all statistical information that could be used to calculate effects (e.g., number and percentile, effect size) in Level 5. Descriptive information about the measures (e.g., measure name, statistical tests used) also was recorded in Level 5. For studies that met methodological standards (rating of 3.0 or above), we used the information reported in Level 5 to complete the findings tables in Appendix C.

Level 6: What is the quality of the research base underlying the approach? AIR researchers summarized methodology ratings within and across studies in Level 6, and entered the final methodology rating (i.e., an average of the 10 ratings in Levels 3 and 4). Descriptive information about the study (e.g., publication information, names of schools and districts in the study) also was recorded in Level 6. Only studies that earn a methodology rating of 3.0 or above were considered sufficiently rigorous to report their findings. AIR used the information summarized in Level 6 to complete the research tables in Appendix B.

Level 7: What is the overall efficacy of the approach? This level synthesized information from the most rigorous studies (those earning a research rating of 3.0 or above) in terms of reported effects of the approaches. Researchers rated the research base as a whole, using information on the number of studies that met the minimum criteria and the findings of these studies.

Rating Criteria

The rating criteria draw on multiple sources, including Stringfield (1998), National Center to Improve the Tools of Educators (1998), and the U.S. Department of Education (1998). The rating criteria were reviewed by the project's scientific advisors as well as other experts in educational evaluation. The final rating criteria reflect their comments and suggestions.

● = Strong evidence of positive effects on student achievement

- At least four studies (or two studies and one research review/meta-analysis) that use a rigorous methodology and show positive effects on student achievement.
- At least three of these studies that show statistically or educationally significant positive effects on students (i.e., effect size of at least .25, statistically significant at the $p < .01$ level, or gains greater than 10 percentiles).
- No more than 20 percent of studies that use a rigorous methodology show negative or no effects⁵ on students.
- To ensure that there is enough information to replicate any particular approach, at least one study must be available that provides information on implementation of the approach (high methodology rating not required).

◐ = Promising evidence of positive effects on student achievement

- At least three studies (or two studies and one research review/meta-analysis) that use a rigorous methodology and show positive effects OR a combination of one such study and at least six longitudinal (i.e., three years or longer) case studies (rigorous methodology not required) that show positive effects.

- At least one of these studies that shows statistically or educationally significant positive effects (i.e., effect size of at least .25, statistically significant at the $p < .01$ level, or gains greater than 10 percentiles).
- No more than 30 percent of studies that use rigorous methodologies OR are longitudinal case studies show negative or no effects on students.
- At least one study provides information on implementation of the approach (high methodology rating not required).

● = **Marginal evidence of positive effects on student achievement**

- At least one study that uses a rigorous methodology OR four longitudinal case studies (high methodology rating not required).
- No more than 50 percent of studies that use rigorous methodology OR are longitudinal case studies show negative or no effects on students.

○ = **Evidence of mixed, weak, or no effects on student achievement**

- At least one study that uses a rigorous methodology OR two longitudinal case studies (high methodology rating not required) that show inconsistent, mostly negative, or no effects on students.

? = **No research on effects on student achievement**

- Insufficient data on student outcomes: no studies use rigorous methodology AND there are fewer than two longitudinal case studies.

The criteria evaluate two dimensions of the evidence of positive effects on student achievement: size of the research base, and strength of the findings. The highest-rated approaches must have multiple studies that meet the EREA criteria for rigorous research (methodology rating of 3.0 or above), the vast majority of the research must show positive effects, and a majority of the findings must be statistically or educationally significant.

Overall, the ratings flow from more to less research and from stronger to weaker positive findings. The fourth rating, *evidence of mixed, weak, or no effects on student achievement*, is an exception. This rating is used for approaches that may have the number of studies required for a marginal rating, but the studies show inconclusive or negative effects on students. Thus, an approach with one rigorous study that shows positive effects would be rated *marginal*, while an approach with at least one rigorous study that shows ambivalent or negative effects would be rated *mixed, weak, or no effects*, and an approach with no rigorous studies at all would be rated *no research*.

Several conditions in these rating criteria have been tailored for this guide. First, the criteria incorporate both quantitative and qualitative research. Since the guide reports on measurable improvements in student achievement, quantitative results are necessary for a high rating. However, the sponsoring organizations and AIR recognized the need to include a variety of research designs, including well-conducted qualitative studies. Therefore, in certain cases, the rating criteria permit a large number of longitudinal case studies to be substituted for a smaller number of studies that use a rigorous methodology. This was done to compensate for the quantitative bias of the EREA, as high-quality qualitative studies (e.g., well-conducted longitudinal case studies) are less likely to meet the criteria of the EREA than high-quality quantitative studies. That particular case never occurred during AIR's review, in part because the EREA was successfully adapted to include qualitative research. However, AIR kept the condition in the rating criteria to emphasize the intent to incorporate a variety of research designs.

Second, the rating criteria make a distinction between positive findings and significantly positive findings. To earn a *strong* or *promising* rating, an approach must have studies with positive findings; further, some—but not all—of these studies must report findings that are educationally or statically significant. For example, *strong* evidence of positive effects calls for four or more studies with positive student achievement findings, of which at least three must have significantly positive findings. Again, this condition is intended to incorporate findings from qualitative studies, which are unlikely to report effects in terms of measurable significance, as well as quantitative studies, which are likely to report significance levels. Further, some quantitative studies provide ample evidence of strong positive effects (e.g., a large rise in test scores across the school), but neglect to include some piece of information (e.g., the exact number of

students tested) that would be necessary to calculate significance levels. However, if studies passed the EREA criteria for rigorous methodology on other counts, AIR considered them when rating an approach.

Third, the criteria accommodate studies that report mixed effects on achievement. For example, a study that shows a positive effect on reading and a negative effect on mathematics test scores would be credited both as a study with positive effects and a study with negative effects.⁶ Each study, rather than each outcome, is considered equally for the rating, so that both positive and negative outcomes are recognized.

Fourth, the rating criteria consider information on implementation. To earn the highest ratings, an approach must have research that reports both implementation and effects. This condition ensures that statements can be made about the interaction between level of implementation and effects on students. For example, although a particular developer might not require or provide extensive staff development, it would be important to know that all schools that made significant student achievement gains, using the approach, chose to contract for such services. In addition, researchers need information on the implementation level if they want to accurately replicate the research.

The reported analyses treat all studies equally. In fact, studies differ on a number of dimensions, including the number of schools studied, the number of grade levels tested, the number of outcome measures used, and the number of students included.

To examine the sensitivity of the results to alternative assumptions about the studies, supplementary analysis was conducted based on one assumption, that number of schools in the study matters. Studies with one to 20 schools were assigned a weight of one, and studies with more than 20 schools were assigned a weight of two. Weighting the analyses had minimal impact: it raised the ratings for three borderline cases and lowered the rating for a fourth borderline case. We retained the original rating strategy, in which studies were the unit of analysis, for three reasons. First, the number of studies reflects the potential breadth and variety of the research. Second, the limited information available on the studies would not support a truly accurate weighting scheme. Third, the supplementary analysis suggested that weighting had minimal impact.

¹ For example, some materials originally classified as studies were, upon closer inspection, promotional materials reporting anecdotes of successful reform.

² One of the most critical changes to the EREA was to change the ratings system from exclusionary to summative. In the original version, studies were automatically dropped if they did not meet certain criteria. In the revised version, studies were rated on a number of criteria; the average rating across criteria was used to determine whether the study should be used or dropped. A second critical change was in the rating criteria used to summarize research across an approach. The revised version incorporates the original criteria, those recommended by Stringfield (1998), and those identified in the guidance to the Comprehensive School Reform Demonstration Act.

³ AIR reviewed available information on implementation but did not include it in the methodology rating. There are three reasons for this decision—two methodological and one an artifact of the available research. First, most studies did not provide adequate information on implementation, and so ratings in that area would be suspect. Second, the methodology rating is intended to reflect the quality of the study, rather than quality of implementation of an approach at a particular site. We discuss implementation in other sections of the report. (See Appendix E for a description of implementation data collected and reported.) Third, including both well and poorly implemented studies in the discussion of effects allowed AIR to look at data and make statements about the relationship between implementation level and effects of the approach. If studies had been systematically excluded from analysis because the approaches were poorly implemented at the sites studied, AIR could not have addressed this question.

⁴ Because the number of studies matters, a study that appears as a paper and, in modified format, as a journal article, was reviewed and reported only once, using the most recent version. Some longitudinal studies involved multiple reports over the course of data collection. In such cases, we reviewed the most comprehensive report. If other reports from this study provided unique data or analysis (e.g., an implementation report in year one and an outcome report in year three), we also reviewed those reports.

⁵ For a study to show "negative or no effects," at least one-third of its findings must be negative or ambiguous.

⁶ Ratings are not separated by subject area, as the limited data would not support this level of analysis.

APPENDIX B
SUMMARY OF FINDINGS ON
STRENGTH OF THE RESEARCH BASE

Strength of the Research on Student Achievement Outcomes for Accelerated Schools
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Chasin, Levin (1995)	Developer	4.0	3.0	1.0	2.0	1.0	2.0	4.0	4.0	1.5/2.5	2.1
McCarthy, Hopfenberg, Levin (1991)	Developer	4.0	3.0	1.0	2.0	1.0	2.0	3.5	4.0	1.7/2.5	2.5
McCarthy, Still (1993)	Developer	4.0	3.0	1.0	2.0	1.0	2.0	3.9	4.0	1.2/2.5	2.5
Knight, Stallings (1995)	Developer	4.0	3.0	4.0	3.0	1.0	3.0	3.4	4.0	2.0/3.7	3.1
Ross, Alberg, McNelis (1997)	Independent	4.0	2.0	3.0	3.0	4.0	3.0	3.6	4.0	2.2/3.7	3.3

Strength of the Research on Student Achievement Outcomes for America's Choice

No studies on effects of America's Choice on students are publicly available. However, the developer collects and makes publicly available student test data from America's Choice schools.

Strength of the Research on Student Achievement Outcomes for ATLAS Communities

No studies on effects of ATLAS Communities on students are publicly available. According to the developers, most of the research on ATLAS to date has been formative, and has led to improvements in the approach. Further, the developers, New American Schools, and participating pathways collect and make publicly available test data on student effects.

Strength of the Research on Student Achievement Outcomes for Audrey Cohen College: Purpose-Centered Education

No studies on effects of Audrey Cohen College: Purpose-Centered Education on students are publicly available. However, the developers collect and make publicly available standardized test score data on Audrey Cohen College: Purpose-Centered Education.

Strength of the Research on Student Achievement Outcomes for Basic Schools Network

No studies on the effects of the Basic Schools Network on students are publicly available. However, the developer collects and makes publicly available test data, and will release a full report on the Basic Schools Network in spring 1999.

Strength of the Research on Student Achievement Outcomes for Coalition of Essential Schools (all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Billups (1991)	Independent	4.0	4.0	1.0	2.0	1.0	4.0	2.4	2.0	3.7/3.2	2.7
Cushman (1991)	Developer	4.0	1.0	1.0	1.0	1.0	1.0	3.3	4.0	1.2/2.2	2.0
McCarthy (1994)	Independent	4.0	4.0	3.0	3.0	1.0	3.0	3.0	2.2	3.7/2.8	3.0
Riedel (1994)	Independent	4.0	3.0	3.0	1.0	1.0	2.0	2.6	3.0	2.0/3.1	2.5
Sikorski, Wallace, Stariha, Rankin (1993)	Independent	4.0	4.0	1.0	4.0	1.0	3.0	2.6	1.0	3.1/1.3	2.5
Stringfield et al. (1997)	Independent	4.0	3.0	1.0	2.0	4.0	3.0	4.0	4.0	2.3/4.0	3.1

Strength of the Research on Student Achievement Outcomes for Community for Learning
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Brookhart, Casile, McCown (1997)	Independent	4.0	3.0	2.0	4.0	4.0	2.0	3.4	4.0	1.3/3.1	3.1
Oates, Flores, Weishew (1997)	Developer	4.0	4.0	3.0	2.0	1.0	4.0	3.5	3.3	2.3/2.4	3.1
Reynolds, Heistad, Peterson, Dehli (1992)	Independent	4.0	4.0	1.0	4.0	4.0	3.0	3.2	4.0	3.2/3.7	3.4
Temple University (1997)	Developer	4.0	3.0	2.0	4.0	1.0	3.0	3.5	4.0	1.8/3.1	2.9
Wang (1983)	Developer	4.0	2.0	3.0	3.0	1.0	2.0	2.0	4.0	1.3/3.4	2.6
Wang (1985)	Developer	4.0	1.0	1.0	1.0	4.0	2.0	2.4	4.0	1.2/2.2	2.3
Wang, Birch (1984a)	Developer	4.0	2.0	3.0	4.0	1.0	2.0	2.8	4.0	1.8/3.4	2.9
Wang, Birch (1984b)	Developer	4.0	2.0	3.0	4.0	1.0	2.0	2.8	4.0	1.3/3.4	2.8
Wang, Genmari, Waxman (1985)	Developer	4.0	2.0	3.0	3.0	1.0	2.0	3.0	4.0	3.1/3.7	2.9
Wang, Nojan, Stron, Walblerg (1984)	Developer	4.0	2.0	1.0	1.0	4.0	1.0	3.3	4.0	1.0/2.5	2.4
Wang, Oates, Weishew (1995)	Developer	4.0	3.0	3.0	3.0	1.0	2.0	3.5	4.0	3.0/3.4	3.1
Wang, Peverly, Randolph (1984)	Developer	4.0	2.0	2.0	3.0	4.0	2.0	3.2	4.0	3.1/4.0	3.1
Wang, Walberg (1983)	Developer	4.0	2.0	3.0	4.0	3.0	1.0	3.4	4.0	1.3/3.4	2.9

Strength of the Research on Student Achievement Outcomes for Co-NECT
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Co-NECT Schools (1997)	Developer	4.0	4.0	1.0	3.0	1.0	3.0	2.9	1.9	1.7/2.8	2.5
Co-NECT Schools (1998)	Developer	4.0	4.0	1.0	4.0	1.0	3.0	2.0	4.0	1.3/3.4	2.8

The developer collects and makes publicly available student test data.

Strength of the Research on Student Achievement Outcomes for Core Knowledge
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Oklahoma City Public Schools (1996)	Independent	4.0	3.0	3.0	4.0	4.0	4.0	4.0	3.3	2.3/3.7	3.5
Schubnell (1996)	Independent	4.0	3.0	1.0	3.0	3.0	4.0	3.2	0.2	2.0/3.1	2.7
Stringfield, McHugh (1996)	Independent	4.0	3.0	2.0	4.0	1.0	4.0	3.9	4.0	1.8/2.8	3.1
Stringfield, McHugh (1998)	Independent	4.0	4.0	2.0	4.0	1.0	4.0	4.0	4.0	2.5/3.1	3.3

Strength of the Research on Student Achievement Outcomes for Different Ways of Knowing
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Catterall (1995)	Independent	4.0	4.0	1.0	3.0	4.0	3.0	4.0	4.0	1.8/4.0	3.3
Catterall, Dreyfus, DeJarnette (1995)	Independent	4.0	4.0	3.0	3.0	4.0	3.0	2.9	2.4	2.3/3.7	3.2
Kentucky Department of Education (1998)	Independent	4.0	3.0	3.0	4.0	3.0	3.0	1.8	4.0	1.3/3.4	3.1
Petrosko (1997); Hovda, Kyle (1997); Wang, Sogin (1996) ¹	Independent	4.0	3.0	4.0	4.0	1.0	3.0	2.5	4.0	1.7/4.0	3.1

¹ These three studies were produced and reviewed as a set.

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Strength of the Research on Student Achievement Outcomes for Direct Instruction
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Adams, Engelman (1996)	Developer	4.0	na	4.0	4.0	4.0	4.0	4.0	4.0	1.5/4.0	3.8
Becker, Carnine (1980)	Developer	4.0	4.0	1.0	4.0	4.0	4.0	3.0	4.0	1.5/3.7	3.4
Becker, Gersten (1982)	Developer	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	2.8/3.7	3.7
Brent, DiOibida (1993)	Independent	2.0	2.0	1.0	3.0	4.0	3.0	3.7	4.0	2.5/3.2	2.9
Davis (1998)	Independent	4.0	1.0	4.0	3.0	1.0	3.0	2.4	3.2	2.3/4.0	2.8
Gersten (1985)	Developer	3.0	4.0	3.0	4.0	4.0	4.0	3.6	4.0	3.2/3.7	3.6
Gersten, Becker, Heiry, White(1981)	Developer	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.5	3.0/3.7	3.6
Gersten, Carnine (1984)	Developer	3.0	4.0	3.0	4.0	3.0	3.0	3.6	4.0	2.7/3.1	3.4
Gersten, Carnine, Williams (1982)	Developer	4.0	2.0	1.0	1.0	4.0	1.0	2.9	4.0	2.0/3.1	2.5
Gersten, Darch, Gleason (1988)	Developer	4.0	4.0	1.0	2.0	4.0	4.0	3.6	4.0	2.0/3.7	3.2
Gersten, Carnine, Zoref, Cronin (1986)	Developer	4.0	3.0	2.0	3.0	4.0	2.0	3.2	4.0	1.5/3.1	3.0
Grossen, Ewing (1994)	Independent	3.0	3.0	3.0	4.0	4.0	3.0	3.0	2.2	2.8/3.7	3.2
Meyer (1984)	Independent	4.0	4.0	1.0	3.0	4.0	3.0	3.3	3.7	2.7/3.7	3.3
Meyer, Gersten, Gutkin (1983)	Developer	4.0	4.0	2.0	3.0	4.0	4.0	3.6	4.0	1.7/3.1	3.3
Slocum (1998)	Independent	3.0	4.0	3.0	3.0	4.0	2.0	1.4	2.1	1.7/3.1	2.8
Tarver, Jung (1995)	Independent	2.0	3.0	3.0	3.0	4.0	2.0	4.0	4.0	3.0/3.4	3.2
Varela-Russo, Blasik, Ligas (1997)	Independent	4.0	4.0	2.0	4.0	4.0	2.0	3.5	2.9	3.1/3.2	3.3
Wellington (1994)	Independent	3.0	3.0	3.0	3.0	4.0	2.0	4.0	4.0	2.5/3.4	3.2

Strength of the Research on Student Achievement for Expeditionary Learning Outward Bound
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Academy for Educational Development (1995)	Independent	3.0	3.0	4.0	4.0	1.0	2.0	3.4	4.0	4.0/3.6	3.2
Expeditionary Learning (1997)	Developer	4.0	3.0	3.0	4.0	3.0	3.0	2.5	4.0	3.7/1.2	3.1
Farrell, Leibowitz (1998)	Developer	4.0	4.0	2.0	4.0	1.0	2.0	3.7	3.0	3.1/2.2	3.0

Strength of the Research on Student Achievement Outcomes for Foxfire Fund

No studies on the effects of the Foxfire approach are publicly available. However, the developer collects and makes publicly available student test data on Foxfire Fund.

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Strength of the Research on Student Achievement Outcomes for High Schools That Work
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Bottoms, Mikos (1995)	Developer	4.0	4.0	1.0	4.0	1.0	3.0	3.5	4.0	1.7/3.7	3.0
Bottoms, Presson, Johnson (1992)	Developer	4.0	3.0	4.0	4.0	3.0	4.0	3.5	2.7	3.3/4.0	3.6
Bradby, Teitelbaum (1998)	Independent	4.0	4.0	3.0	4.0	1.0	3.0	4.0	4.0	1.8/3.1	3.2
Emanuel, et al. (1997)	Developer	4.0	4.0	3.0	4.0	3.0	3.0	3.7	3.6	3.0/3.4	3.5
SREB (1996)	Developer	4.0	1.0	1.0	1.0	1.0	1.0	3.3	0.0	1.0/2.2	1.6
SREB (1997a)	Developer	4.0	4.0	2.0	3.0	1.0	2.8	3.6	4.0	1.8/2.8	2.9
SREB (1997b)	Developer	4.0	4.0	1.0	3.0	1.0	3.0	3.6	4.0	1.8/3.1	2.9
SREB (1997c)	Developer	4.0	4.0	2.0	3.0	1.0	3.0	3.6	4.0	1.8/2.8	2.9
SREB (1997d)	Developer	4.0	4.0	2.0	3.0	1.0	3.0	3.6	4.0	1.8/2.8	2.9
SREB (1998)	Developer	4.0	4.0	2.0	3.0	1.0	3.0	3.6	4.0	2.0/2.8	2.9

Strength of the Research on Student Achievement Outcomes for High/Scope K-3 Model
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Schweinhart, Wallgren (1993)	Developer	4.0	4.0	4.0	4.0	4.0	4.0	3.3	3.3	3.0/4.0	3.8

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Strength of the Research on Student Achievement for League of Professional Schools
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Council for School Performance (1997)	Independent	4.0	2.0	1.0	4.0	1.0	3.0	3.0	4.0	2.0/3.0	2.7
Glickman (undated)	Developer	4.0	4.0	3.0	3.0	4.0	3.0	2.4	4.0	1.7/3.4	3.2
Harkreader, Henry (1997)	Independent	4.0	4.0	2.0	4.0	3.0	4.0	3.0	4.0	2.0/3.0	3.7

Strength of the Research on Student Achievement Outcomes for Modern Red Schoolhouse
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Modern Red Schoolhouse (1998)	Developer	4.0	3.0	3.0	4.0	1.0	2.0	2.5	4.0	1.2/3.1	2.6

The developer collects and makes publicly available student test data.

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Strength of the Research on Student Achievement Outcomes for Onward to Excellence
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Mississippi Department of Education (1998)	Independent	4.0	3.0	1.0	4.0	3.0	3.0	3.0	4.0	2.5/3.0	3.1
Kushman, Yap (1997)	Developer	4.0	4.0	1.0	3.0	4.0	4.0	3.6	4.0	2.0/2.5	3.2
Landis (1997a)	Developer	4.0	4.0	1.0	4.0	1.0	3.0	0.7	4.0	1.2/2.5	2.5
Landis (1997b)	Developer	4.0	4.0	1.0	4.0	1.0	3.0	3.5	4.0	1.2/2.5	2.8

Strength of the Research on Student Achievement Outcomes for Paideia
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Center for Educational Research and Evaluation (1998)	Developer	4.0	4.0	1.0	4.0	4.0	2.0	3.6	2.7	1.7/3.1	3.0
Chesser, Gellatly, Hale (1997)	Independent	4.0	3.0	2.0	1.0	1.0	3.0	3.1	2.7	1.5/2.2	2.3
Howard (1992)	Independent	4.0	1.0	1.0	2.0	4.0	4.0	4.0	4.0	3.2/3.4	3.1
Moore (1990)	Independent	1.0	4.0	1.0	4.0	1.0	3.0	3.4	4.0	1.5/2.8	2.6
Stringfield et al. (1997)	Independent	4.0	3.0	1.0	2.0	4.0	3.0	4.0	4.0	2.3/4.0	3.1
Tarkington (1989)	Independent	4.0	1.0	3.0	3.0	4.0	4.0	2.8	4.0	2.3/3.7	3.2
Wallace (1993)	Independent	4.0	3.0	1.0	2.0	1.0	3.0	3.0	3.0	2.5/3.7	2.6

Strength of the Research on Student Achievement Outcomes for Roots and Wings
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Madden, Slavin, Simons (1997)	Developer	4.0	4.0	3.0	4.0	1.0	2.0	3.1	4.0	1.7/3.1	3.0
Ross, Sanders, Wright (1998)	Independent	4.0	4.0	3.0	4.0	1.0	3.0	2.4	4.0	1.3/3.1	3.0
Slavin, Madden, Dolan, Wasik (1994)	Developer	4.0	4.0	3.0	1.0	1.0	2.0	2.2	4.0	1.7/3.1	2.6

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Strength of the Research on Student Achievement Outcomes for School Development Program
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Becker, Hedges (1992)	Independent	4.0	3.0	2.0	3.0	4.0	2.0	3.3	4.0	1.3/3.1	3.0
Comer, et al. (1992)	Developer	4.0	3.0	2.0	4.0	4.0	1.0	2.0	4.0	1.2/3.1	2.9
Haynes (Ed.) Chapter 8, part 1 (1994)	Developer	4.0	1.0	1.0	1.0	4.0	4.0	1.0	3.3	1.3/4.0	2.5
Haynes (Ed.) Chapter 8, part 2 (1994)	Developer	4.0	1.0	2.0	2.0	4.0	4.0	3.1	4.0	1.5/2.8	2.8
Haynes (Ed.) Chapter 8 part 3 (1994)	Developer	4.0	3.0	2.0	2.0	4.0	4.0	3.1	1.0	1.7/2.8	2.8
Haynes, et al. (1987)	Developer	4.0	4.0	1.0	4.0	1.0	3.0	2.4	2.9	1.7/2.5	2.7
Haynes, Comer, Hamilton-Lee (1988)	Developer	4.0	4.0	1.0	4.0	1.0	3.0	2.4	2.9	1.7/2.5	2.7
Haynes, Comer, Hamilton-Lee (1989)	Developer	4.0	3.0	2.0	3.0	2.0	3.0	2.8	4.0	1.8/2.5	2.8
Joyner (1990)	Developer	4.0	3.0	2.0	3.0	4.0	4.0	3.3	4.0	2.2/3.1	3.3
Lockwood (undated)	Independent	4.0	3.0	1.0	3.0	1.0	3.0	3.3	4.0	1.2/2.7	2.6
Millsap, Chase, Brigham, Gamse (1997)	Independent	4.0	4.0	1.0	1.0	3.0	3.0	3.4	1.0	1.7/2.2	2.4
Stringfield, et al. (1997)	Independent	4.0	3.0	1.0	2.0	4.0	3.0	4.0	4.0	2.3/4.0	3.1

Strength of the Research on Student Achievement Outcomes for Success for All
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Jones, Gottfredson Gottfredson (1997)	Independent	4.0	4.0	3.0	2.0	4.0	4.0	3.9	3.3	2.3/3.4	3.4
Livingston, Flaherty (1997)	Developer	4.0	4.0	3.0	4.0	4.0	3.0	3.5	3.2	3.7/2.33	3.6
Madden, et al. (1993)	Developer	4.0	4.0	3.0	1.0	4.0	4.0	3.6	4.0	2.2/3.7	3.3
Ross, Alberg, McNelis (1997)	Independent	4.0	2.0	3.0	3.0	4.0	3.0	3.6	4.0	2.2/3.7	3.3
Ross, Nunnery, Smith (1996)	Independent	4.0	3.0	4.0	1.0	4.0	4.0	3.4	4.0	2.2/4.0	3.4
Ross, Smith, Casey, Slavin (1995)	Developer	4.0	2.0	3.0	3.0	4.0	4.0	3.4	4.0	2.2/4.0	3.4
Ross, Smith, Slavin, Madden (1997)	Developer	4.0	4.0	3.0	3.0	4.0	4.0	3.1	4.0	2.2/3.7	3.5
Slavin, Karweit, Wasik, Madden, Dolan (1994)	Developer	4.0	na	3.0	4.0	4.0	4.0	3.1	4.0	2.0/4.0	3.6
Slavin, Madden (1998)	Developer	4.0	3.0	3.0	4.0	4.0	4.0	2.9	4.0	2.0/2.8	3.4
Slavin, Madden, Dolan, Wasik, Ross, Smith, Dianda (1996)	Developer	4.0	na	3.0	4.0	4.0	4.0	3.6	4.0	2.2/3.4	3.6
Slavin, Madden, Karweit, Livermon, Dolan (1990)	Developer	4.0	2.0	3.0	2.0	4.0	4.0	3.6	4.0	1.8/4.0	3.2
Smith, Ross, Casey (1994)	Independent	4.0	3.0	2.0	2.0	4.0	4.0	3.4	1.7	3.08/1.5	2.9
Smith, Ross, Casey (1996)	Independent	4.0	4.0	1.0	1.0	4.0	4.0	4.0	4.0	2.3/4.0	3.2
Stringfield et al. (1997)	Independent	4.0	3.0	1.0	2.0	4.0	3.0	4.0	4.0	2.3/4.0	3.1
Venezky (in press)	Independent	4.0	1.0	4.0	2.0	4.0	2.0	4.0	4.0	1.3/3.7	3.1

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Strength of the Research on Student Achievement Outcomes for Talent Development High School
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
McPartland, Balfantz, Jordan, Legters (1998)	Developer	4.0	4.0	3.0	3.0	3.0	3.0	3.6	4.0	1.8/3.4	3.3

Strength of the Research on Student Achievement Outcomes for Urban Learning Centers
(all ratings on scale of 1-4, with 4=best)

Source	Affiliation	Construct Validity	Duration	Sample Bias	External Validity	Statistical Validity	Study Design	Measures	Sample Description	Study Clarity	Overall Research Rating
Aschbacher, Rector (1995)	Independent	4.0	2.0	1.0	3.0	3.0	2.0	3.1	4.0	1.3/3.1	2.7
Aschbacher, Rector (1996)	Independent	1.0	2.0	1.0	4.0	1.0	1.0	1.2	4.0	1.0/2.8	1.9
Donoso (1997)	Developer	4.0	3.0	2.0	1.0	1.0	1.0	1.5	4.0	2.5/1.5	2.2
LA PASS (1997)	Developer	4.0	2.0	2.0	3.0	3.0	2.0	3.4	4.0	1.3/2.7	2.7

The developer collects and makes publicly available test score data on Urban Learning Centers.

APPENDIX C
SUMMARY OF FINDINGS ON
STUDENT ACHIEVEMENT EFFECTS

Summary of Effects on Student Achievement for Accelerated Schools

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Knight, Stallings (1995)	3.1	Metropolitan Achievement Test	Accelerated School (AS) vs. matched control school before implementation (1989), after implementation (1991)	Reading	Achievement in AS rose from below grade level to above grade level and above achievement in comparison school for 1 st , 2 nd , 3 rd and 5 th but not 4 th grades.	Mean grade equivalents
				Language	Achievement in AS began at or above grade level and near achievement for control schools; rose above grade level and control school for 1 st , 2 nd , and 3 rd grades.	Mean grade equivalents
				Math	AS had higher percent of students passing in 3 rd grade, but lower percent passing in 5 th grade, compared to all 3 control groups.	Percent passing
				Reading	AS had higher percent of students passing in 3 rd grade, but lower percent passing in 5 th grade, compared to all 3 control groups.	Percent passing
				Writing	AS had higher percent of students passing in 3 rd grade and slightly higher or lower percent of students passing in 5 th grade compared to control groups.	Percent passing
Ross, Alberg, McNelis (1997)	3.3	Durrell Oral Reading; Woodcock Passage Comprehension; Woodcock Word Attack, Writing Sample	1 Accelerated School (AS), 1 Success for All (SFA), and 2 locally developed programs (LDP); 43%-54% free/reduced lunch 3 AS and 3 SFA schools; 62%-71% free/reduced lunch	Reading/Writing	LDP schools performed highest of the 3 on Oral Reading (ES=+.49) but lowest on Word Attack (ES=-.36). AS performed highest on Word Attack, but lowest on Writing (ES=-.30). SFA scored highest on Writing (ES=+.25), but lowest on Passage Comprehension (ES=-.49). SFA outperformed AS on Word Attack (ES=.28), but did significantly worse than AS on Writing (ES=-.49).	Mean score; effect size Mean score; effect size

Summary of Effects on Student Achievement for America's Choice

No studies on effects of America's Choice on students are publicly available. However, the developer collects and makes publicly available student test data from America's Choice schools.

Summary of Effects on Student Achievement for ATLAS Communities

No studies on effects of ATLAS Communities on students are publicly available. According to the developers, most of the research on ATLAS to date has been formative, and has led to improvements in the approach. Further, the developers, New American Schools, and participating pathways collect and make publicly available test data on student effects.

Summary of Effects on Student Achievement for Audrey Cohen College: Purpose-Centered Education

No studies on effects of Audrey Cohen College: Purpose-Centered Education on students are publicly available. However, the developers collect and make publicly available standardized test score data on Audrey Cohen College: Purpose-Centered Education.

Summary of Effects on Student Achievement for the Basic Schools Network

No studies on the effects of the Basic Schools Network are publicly available. However, the developer collects and makes publicly available test data, and will release a full report on the Basic Schools Network in spring 1999.

Summary of Effects on Student Achievement for Coalition of Essential Schools

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
McCarthy (1994)	3.0	Delaware Educational Assessment Program	11 th -grade students	Math, Verbal composites	Schoolwide average scores improved from 1989 to 1992.	na
Stringfield et al. (1997)	3.1	CTBS	Students in 4 CES schools	Reading Math	Test scores dropped over time. Test scores dropped over time.	na na

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Summary of Effects on Student Achievement for Community for Learning

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Brookhart, Casile, McCown (1997) ¹	3.1	ITBS	Community for Learning Students	Math Achievement	Students with 0, 1, 2, or 3 years of instruction via CFL did not show differences in ITBS scores. However, the author asserts that this may be due to a ceiling effect.	Analysis of covariance
		Student folders (incl. Student Achievement Summary and Student Annotation Forms)		Student Achievement	Teacher ratings of mastery of objectives were similar across 3 school years. Percent achievement of objectives was rated as 83.3% on average, with a large amount of variability. Percent achievement in 1995/1996 was higher than in 1994/1995, but similar to 1993/1994.	na
Oates, Flores, Weishew (1997)	3.1	District-wide standardized test	House using CFL vs. test at school	Reading, math	CFL scores slightly (not significantly) higher; CFL sample included special education and bilingual students, control sample did not.	ANOVA
		Enrollment rates	House using CFL vs. rest of school (long follow-up)	Enrollment	CFL – 81% regular, 100% special education students still enrolled; control – 40% regular, 52% special education students still enrolled.	
		Grade level	House using CFL vs. rest of school (long follow-up)	Grade level	CFL – 50% regular, 43% special education students on grade level; controls – 26% regular, 17% special education students on grade level.	
Reynolds, Heistad, Peterson, Dehli (1992)	3.4	Time to complete units of instruction	Non-labeled, Chapter 1, and special education CFL elementary students	Pace of learning for math and reading	Although all students can master the same material, regular education students move through the curriculum the fastest, followed by Chapter 1 students, and then Special Education students. Differences evident from first grade. Placement in a categorical program is related to slower learning.	t-test

(continued)

¹ Also includes data from the 1994-1995 and 1993-1994 school years.

Summary of Effects on Student Achievement for Community for Learning (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Wang, Oates, Wieshew (1995)	3.1	Districtwide standardized test; NCEIC survey	School 1: CFL school vs. two comparable local schools (1992-1994)	Reading	CFL reading scores rose over 2 years; control school scores went down.	na
				Math	CFL math scores rose over 2 years; control school scores went down.	
				Perceptions	CFL students had significantly higher perceptions of feedback, aspirations for self, self-concept, task orientation, and rules clarity compared to non-CFL students.	F-test
			School 2: CFL classes vs. other classes, same school	Reading	CFL students had higher scores (41) than non-CFL students (32).	
				Math	CFL students had higher scores (46) than non-CFL students (34).	
				Perceptions	CFL students had significantly higher perceptions of satisfaction, pacing, teacher aspirations for students, involvement, affiliation, teacher support, and order compared to non-CFL students.	F-test
			School 3: CFL classes vs. other classes, same school	Reading, Math	CFL students scored slightly (not significantly) higher than non-CFL students.	
				Perceptions	CFL students had significantly higher perceptions of a multicultural, social, active, non-traditional, guided interdisciplinary instructional environment, and sensed greater affiliation, teacher support, and participation compared to non-CFL students.	F-test

(continued)

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Summary of Effects on Student Achievement for Community for Learning (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Wang, Peverly, Randolph (1984)	3.1	Stanford Diagnostic Mathematics Test; California Achievement Test in Reading	Students in classes with varying levels of CFL implementation	Student achievement in Reading and Math	Achievement gains for regular education students were significantly greater than the national norm. Achievement gains for mainstreamed special education students were significantly greater than expected gains. Mean overall percentiles for special education students were above the national norm. For both math and reading, implementation scores account for a significant proportion of the variance in achievement. The overall correlation of reading gains and implementation was not significant, however, and not all subscales of implementation significantly correlated with achievement gains (e.g., establishing/communicating rules and developing student self-responsibility).	Percentiles, Regression
		Intellectual Achievement Responsibility Scale (IAR)		Achievement responsibility	Overall significant positive correlation between total IAR score and total implementation score.	Correlations, Regression

Summary of Effects on Student Achievement for Co-NECT

No studies on effects of Co-NECT on students are sufficiently rigorous to report the findings here. However, the developer collects and makes publicly available student test data.

Summary of Effects on Student Achievement for Core Knowledge

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Oklahoma City Public Schools (1996)	3.5	Iowa test of Basic Skills	3 Core Knowledge schools vs. matched control schools	Total	Core students had (not significantly) higher scores for 3 years; significantly higher than Great Expectations schools.	
				Reading comprehension	Core students had (not significantly) higher scores for 3 years; significantly higher than Great Expectations schools.	
		Writing exercise	3 Core Knowledge schools vs. matched control schools	Language	Core students had higher scores for 3 years (significant in one year); significantly higher than Great Expectations schools.	
				Writing	Students in core magnet schools performed better than comparisons. Students in core non-magnet schools did not perform as well as comparisons.	
Stringfield, McHugh (1996)	3.1	Comprehensive Test of Basic Skills	6 Core Knowledge schools vs. matched control schools 1 st grade	Reading comprehension	Core students gained more (10.83) than control students (7.0).	Gain scores
				Math concepts	Core students gained more (2.33) than control students (.50).	Gain scores
			3 rd grade	Reading comprehension	Core students gained more (.17) than control students (-1.50).	Gain scores
				Math concepts	Core students gained less (4.5) than control students (4.67).	Gain scores

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Summary of Effects on Student Achievement for Core Knowledge (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Stringfield, McHugh (1998)	3.3	Maryland State Performance Assessment Program	Core Knowledge vs. control; Core Knowledge vs. all MD schools 3 rd grade	Reading	Core > control; Core > MD schools.	Not reported
				Math	Core > control; Core > MD schools.	
				Social studies	Core > control; Core > MD schools.	
				Science	Core > control; Core > MD schools.	
				Writing	Core > control; Core > MD schools.	
				Language	Core > control; Core > MD schools.	
				All subjects	Core > control; Core > MD schools.	
			5 th grade	Reading	Core > control; Core < MD schools.	
				Math	Core > control; Core > MD schools.	
				Social studies	Core > control; Core > MD schools.	
				Science	Core < control; Core < MD schools.	
				Writing	Core > control; Core > MD schools.	
				Language	Core > control; Core < MD schools.	
				All subjects	Core > control; Core = MD schools.	
			6 Core Knowledge Schools vs. 6 control schools, state average	Reading	Core students (7.8%) gained similar to control students, more than state average (3.5%).	Gain scores
				Math	Core students (9.5%) gained more than control students (7.6%) and state average (8.2%).	Gain scores
				Social studies	Core students (9.5%) gained more than control students (7.6%) and state average (5.7%).	Gain scores
				Science	Core students (8.4%) gained less than control students (15.8%) but more than state average (6.4%).	Gain scores
				Writing	Core students (12.2%) gained more than control students (8.9%) and state average (4.2%).	Gain scores
				Language	Core students (13.4%) gained more than control students (10.2%) and state average (8.9%).	Gain scores

Summary of Effects on Student Achievement for Different Ways of Knowing

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Catterall (1995)	3.3	Standardized test	DWoK students, gains over three years	Math	Student achievement increased slightly (not significantly) for every year of exposure to DWoK.	ANCOVA, F-test
				Language arts	Students gained 8 percentile points (a significant gain) for every year of exposure to DWoK.	ANCOVA, F-test
				Social studies	DWoK students outscored control students by .5 to .75 points (on a three-point scale).	Mean score
		Writing samples	Students with 3 years of DWoK vs. no DWoK	Reading	DWoK students had somewhat higher grades.	Mean grades
		Grades	3 years DWoK vs. no DWoK	Math	DWoK students had significantly higher grades (for one of two samples).	Mean grades
				Language arts	DWoK students had significantly higher grades (both samples).	Mean grades
				Social studies	DWoK students had significantly higher grades (for one of two samples).	Mean grades
Catterall, Dreyfus, DeJarnette (1995)	3.2	California Achievement Test	DWoK students 1 st (1992-93) and 3 rd (1994-95) years of implementation	Reading	Achievement increased from 37.9 to 42.3 percentile.	Percentiles
				Math	Achievement increased from 52.7 to 56.5 percentile.	Percentiles
		Writing samples	DWoK vs. non-DWoK students	Social studies	DWoK students scored higher on pre- and post-test than control students. In a comparison of "best of two" scores, DWoK students in grade 3 scored slightly higher than control students; DWoK students in grade 5 scored significantly higher than control students.	Mean scores

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Summary of Effects on Student Achievement for Different Ways of Knowing (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Kentucky Department of Education (1998)	3.1	KIRIS	High vs. low vs. no implementation:			
			All schools	Test score index (across subjects)	High and low implementation DWoK schools had slightly (not significantly) higher gain scores than non-DWoK schools.	Gain scores, t-test ¹
			Title I schoolwide schools	Test score index (across subjects)	High implementation schools had significantly higher gain scores than non-DWoK schools.	Gain scores, t-test
			Title I targeted assistance schools	Test score index (across subjects)	High and low implementation DWoK schools had slightly (not significantly) higher gain scores than non-DWoK schools.	Gain scores, t-test
			Not Title I schools	Test score index (across subjects)	High and low implementation DWoK schools had slightly (not significantly) lower gain scores than non-DWoK schools.	Gain scores, t-test

(continued)

¹ T-tests were conducted for this report based on data given in the study.

Summary of Effects on Student Achievement for Different Ways of Knowing (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Petrosko (1997); Hovda, Kyle (1997); Wang, Sogin (1996) ²	3.1	KIRIS	Demonstration sites vs. other DWoK sites vs. no DWoK (over two years (1993-95)	Test score index (across subjects)	Demo sites had higher percentage gains (74%) and higher final scores (39.4) than other DWoK sites (61%, 38) or controls (59%, 37.5).	Gain scores
				Reading	Demo sites had higher percentage gains (86%) and higher final scores (56.4) than other DWoK sites (74%, 55.3) or controls (73%, 55).	Gain scores
				Math	Demo sites had higher percentage gains (141%) and higher final scores (42.7) than other DWoK sites (95%, 42.4) or controls (91%, 41.3).	Gain scores
				Science	Demo sites had higher percentage gains (92%) but lower final scores (31.8) than other DWoK sites (82%, 32.6) or controls (82%, 32.5).	Gain scores
				Social studies	Demo sites had higher percentage gains (63%) and higher final scores (40.8) than other DWoK sites (45%, 38.9) or controls (43%, 38.4).	Gain scores
		Survey	Schools having a teacher trained in DWoK 1995-96	Teacher perceptions of effects of DWoK	Over 90% of teachers surveyed felt that DWoK made learning more effective for students.	Percent of responses

² These three studies were produced and reviewed as one set.

Summary of Effects on Student Achievement for Direct Instruction

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Adams, Engelmann (1996)	3.8	Meta-analysis	DI vs. comparison	Overall achievement	Effect Size (ES) of 0.97 overall; 0.87 average per study.	Effect size ¹
				Elementary vs. secondary/adults	Elementary, ES of 0.78 per study; secondary/adult ES of 1.11 per study.	Effect size
				Language	ES of 0.49.	Effect size
				Reading	ES of 0.69.	Effect size
				Social skills	ES of 0.97.	Effect size
				Mathematics	ES of 1.11.	Effect size
				Spelling	ES of 1.33.	Effect size
				Health	ES of 1.60.	Effect size
				Science	ES of 2.44.	Effect size
				Type of test	Norm referenced tests, ES of 0.57; Criterion-referenced test, ES of 1.48.	Effect size
				Type of research design	Casual comparative, ES of 1.20; experimental, ES of 0.85.	Effect size
				Duration of intervention	Up to 1 year, ES of 0.95 per study; over 1 year, ES of 0.78 per study.	Effect size
				Type of teacher	Regular teacher, ES of 0.84 per study; specially trained teacher, ES of 0.92 per study.	Effect size
				Fidelity of implementation	Fidelity checks in study, ES of 0.96 per study; no fidelity checks in study, ES of 0.74 per study.	Effect size
				Country	United States, ES of 0.87 per study; non-United States, ES of 0.85 per study.	Effect size

(continued)

¹ Effect size is a measure of how much of a difference the program being studied makes. Generally, effect size is computed by dividing the difference of the means of the experimental group and the control group by the standard deviation of the control group. In education research, an effect size of 0.25 or more is considered a substantial effect.

Summary of Effects on Student Achievement for Direct Instruction (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Becker, Camine (1980)	3.4	Metropolitan Achievement Test—Elementary Level, Form F (1970) Coopersmith Self-Esteem Inventory (1967) Intellectual Achievement Responsibility Scale (IARS) (1965) Metropolitan Achievement Test (MAT)	DI vs. DI other models of reform at Follow-Through site vs. non-Follow-Through site	Reading	DI scored +214 on ISO, higher than any other model.	Index of significant outcomes (ISO)
				Mathematics	DI scored +429 on concepts and +571 on problem solving, higher than any other model.	
				Affect (themselves, school)	DI outscored other models (score not available).	
				Extent to which children attribute success or failure to themselves or outside	DI outscored other models (score not available).	
				Reading	DI scored 41 st percentile; next best was Behavior Analysis in 34 th percentile.	Percentile
				Mathematics	DI scored 48 th percentile; next best was Behavior Analysis in 28 th percentile.	Percentile
				Language	DI scored 50 th percentile; next best was Bank Street in 23 rd percentile.	Percentile
Becker, Gersten (1982)	3.7	Wide Range Achievement Test (WRAT) MAT	DI vs. comparison	Reading	Significantly higher achievement effects for DI in grades 5, 6, and for both grades combined.	χ^2
				Reading	Significantly higher achievement effects for DI in grade 5, not in 6, and combined for both grades.	χ^2
				Mathematics	No significant effects for DI in grade 5, significantly higher achievement effects for grade 6 and for both grades combined.	χ^2
				Spelling	Significantly higher achievement effects for DI in grades 5, 6, and for both grades combined.	χ^2
				Language	No significant effects for DI in grade 5, significantly higher achievement effects for grade 6 and for both grades combined.	χ^2

(continued)

Summary of Effects on Student Achievement for Direct Instruction (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Gersten (1985)	3.6	Narrative literature review	DI vs. comparison	Beginning reading instruction with high risk students	No clear effects	Not provided
				Language, instruction for the moderately retarded	Significantly higher achievement for the DI students.	Not provided
				Teaching reading to learning disabled students	Significantly higher achievement for the DI students.	Not provided
				Reading	Significantly higher achievement for the DI students.	Not provided
				Longitudinal growth of moderately retarded children	Moderately retarded children gained at a significantly faster rate than nonhandicapped peers.	Not provided
				Effects of DI on mainstreamed, low IQ students	Significantly higher achievement for the DI students.	Not provided
Gersten, Becker, Heiry, White (1981)	3.6	WRAT and MAT	Low-income children in primary grades divided into 6 IQ blocks; all in DI classes; longitudinal analysis	Reading	No difference in rate of growth of achievement by IQ; that is, those entering with lower IQ, end with lower IQ.	F-test
				Mathematics	No difference in rate of growth of achievement by IQ; that is, those entering with lower IQ, end with lower IQ.	F-test
		Slosson Intelligence Test (SIT)		Language	No difference in rate of growth of achievement by IQ; that is, those entering with lower IQ, end with lower IQ.	F-test

(continued)

Summary of Effects on Student Achievement for Direct Instruction (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Gersten, Carnine (1984)	3.4	MAT	DI vs. comparison and DI vs. 8 models ² for reform at Follow-Through site vs. non-Follow-Through site	Mathematics	DI scored 48 th percentile; next best was Behavioral Analysis at 28 th percentile	Percentile
		Self-concept		DI scored +18 (+ means positive self concept, -means negative), which was 3 rd .	Percentile	
		Sense of responsibility		DI scored +21, which was first among all 8 programs.	Percent rank	
Gersten, Darch, Gleason (1988)	3.2	MAT	Third-grade students with 3 and 4 years of DI vs. local comparison group	Total Reading	DI students with three years of DI scored higher than comparison students on language, total math, computation, math concepts, and problem solving. DI students with four years of DI scored higher than comparison students on all subtests except for spelling.	Not specified, but probability levels given
		Word knowledge				
		Reading (comprehension)				
		Language				
		Spelling				
		Total math				
		Computation				
		Math concepts				
		Problem solving				
		Self-concept				
		Coopersmith Self-Concept Inventory			Students with three years and students with four years of DI both scored more positively than comparison students (.30 and .40 effect size respectively).	Effect size
		CAT	Ninth-grade follow-up group vs. local comparison group	Reading	Three-year DI students scored higher than comparison students in reading and language, and four-year DI students scored higher than comparison students on reading, language, and math.	t-test
				Language		
				Math		

(continued)

² The models for Becker and Carnine (1980) and Gersten and Carnine (1994) are: Parent Education, Southwest Lab, Behavior Analysis Responsive Education, Bank Street, TEEM, Cognitive Curriculum, Open Education.

Summary of Effects on Student Achievement for Direct Instruction (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Gersten, Carnine, Zoref, Cronin (1986)	3.0	CTBS WRAT	Kindergarten through second-grade DI students	Reading	Across 7 classes, students went from an average of the 18 th to an average of the 46 th percentile on CTBS, students in classes with two teachers showing highest levels of implementation (as measured by DISC) showed higher percentile scores on CTBS than students in classes with two teachers showing lowest levels of implementation, and scores on CTBS had a significant correlation with three different measures of implementation (DISC, expert judgements, and supervisor ratings). WRAT scores correlated positively with measures of implementation (expert judgements, supervisor ratings).	Various
Grossen, Ewing (1994)	3.2	Inventory, 4 th grade level of Scott Foresman text as pretest Algebraic word problems post-test (DI) Woodcock-Johnson applications scale posttest Iowa Test of Basic Skill, Concepts Iowa Test of Basic Skills, Problem Solving Iowa Test of Basic Skills, Operations	DI vs. National Council of Teachers of Mathematics standards	Mathematics problem solving	No statistically significant difference between DI and NCTM students. DI students scored significantly higher, with mean scores of 17.7 vs. 12.6. No statistically significant difference between DI and NCTM students. No statistically significant difference between DI and NCTM students. No statistically significant difference between DI and NCTM students. DI students scored significantly higher, with mean scores of 28.8 vs. 21.2.	F-test F-test F-test F-test F-test

(continued)

Summary of Effects on Student Achievement for Direct Instruction (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Meyer (1984)	3.3	California Achievement Test	DI vs. comparison	Reading	DI students scored significantly higher, with grade equivalents of 9.20 vs. 8.21.	t-test
		California Achievement Test		Mathematics	DI students scored significantly higher, with grade equivalents of 8.59 vs. 7.95.	t-test
		Graduated high school		High school success	DI students graduated at a significantly higher rate than the control (59.5% vs. 37.6%).	t-test
		Held back at least one grade			DI students were held back at a significantly lower rate than the control (21.4% to 32.6%).	t-test
		Dropped out			DI students dropped out at a significantly lower rate than the control (27.7% to 46%).	t-test
		Applied to college			DI students applied to college at a significantly higher rate than the control (34% to 18.5%).	t-test
		Accepted to college			DI students were accepted to college at a significantly higher rate than the control (34% to 17%).	t-test
Meyer, Gersten, Gutkin (1983)	3.3	MAT	Students with 4 years of DI vs. local and "pooled" comparison	Math Reading Language	Two cohorts tested. For cohort 1, DI students scored significantly higher than pooled comparison group on math, reading, and language, and scored higher than the local comparison group on language only. For cohort 2, DI students scored significantly higher than both the pooled comparison and local comparison groups in math and language. Although no specific comparisons were made, scores for DI students were relatively consistent on both the MAT and SAT across a 9-year period.	ANCOVA
Tarver, Jung (1995)	3.2	Comprehensive Test of Basic Skills—Mathematics	DI vs. discovery learning mathematics curriculum (MTW/CGI)	Mathematics	DI students scored significantly higher on math computation and total mathematics, no difference on concepts and applications at end of first grade; DI students scored significantly higher on all 3 at end of 2nd grade.	F – test

(continued)

Summary of Effects on Student Achievement for Direct Instruction (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Varela-Russo, Blasik, Ligas. (1997)	3.3	Stanford Achievement Test (SAT8) Total Reading	Alliance of Quality Schools (DI) vs. district-wide comparison	Reading	DI students had lower mean scores but showed a greater gain over one year than comparison in 3rd and 4th grades, but had lower scores and lost more in 5th grade	None
		SAT8 Total Math		Mathematics	DI students had lower mean scores but showed a greater gain over one year than comparison in 3rd and 4th grades, but had lower scores and lost more in 5th grade.	None
		Florida Writes		Writing	32% of DI schools improved scores; 21% outscored district average.	None
Wellington (1994)	3.2	Teacher designed	DI vs. comparison in 8 elementary schools, 1st and 4th grades	Mathematics	DI outscored comparison in one school 26.21% to 22.18%, and comparison outscored DI in one school 31.06% to 28.94% in 1st grade; in 4th grade, DI outscored comparison at 5 of 6 schools.	t-test

Summary of Effects on Student Achievement for Expeditionary Learning Outward Bound

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Academy for Educational Development (1995)	3.2	Metropolitan Achievement Test/ITBS	ELOB school sites; no comparison	Reading	Increase in scores from 1993-1995 for grades 5 and 6 (Hernandez); grade 7 (King); grades 7 and 8 (SPCELC); grade 6 (Bryant and Lincoln).	na
				Math	Increased scores for grades 5 and 6 (Hernandez); grade 8 (SPCELC); grade 6 (Bryant and Table Mound).	na
					Decreased scores for grade 7 (King and SPCELC).	Not given
Expeditionary Learning (1997)	3.1	Maine Educational Assessment	King Middle School vs. state average	Reading	King increased 45 points vs. statewide avg. increase of 5 points	
				Writing	King increased 55 points vs. statewide avg. increase of 0 points	
				Mathematics	King increased 65 points vs. statewide avg. increase of 25 points	
				Science	King increased 80 points vs. statewide avg. increase of 10 points	
		Iowa Test of Basic Skills	Clairemont Elementary School, fifth grade vs. district and state average	Reading	ELOB students scored at 7.6 grade equivalent	
				Mathematics	ELOB students scored at 8.1 grade equivalent	
		Georgia Curriculum Based Assessment Test		Reading	ELOB students scored at 99 th percentile 84% of ELOB achieved at the highest standard (vs. 64% in district and 61% statewide)	Percentile
				Mathematics	ELOB students scored at 95 th percentile 84% of ELOB achieved at the highest standard (vs. 46% in district and 32% statewide)	Percentile
				Science	ELOB students scored at 98 th percentile 42% of ELOB achieved at the highest standard (vs. 18% in district and 12% statewide)	Percentile
				Social studies	ELOB students scored at 95 th percentile 32% of ELOB achieved at the highest standard (vs. 18% in district and 16% statewide)	Percentile

(continued)

Summary of Effects on Student Achievement for Expeditionary Learning Outward Bound (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Expeditionary Learning (1997), continued		Stanford 9	Rafael Hernandez School, Boston	Mathematics	11 th out of 76 elementary schools in district in percent of fifth graders above basic proficiency.	
				Reading	17 th out of 76 elementary schools in district in percent of fifth graders above basic proficiency.	
			Rocky Mountain School of Expeditionary Learning, Denver	Reading	Scores increased in 7 of 9 grades.	
				Language	Scores increased in 6 of 9 grades.	
			Lincoln Elementary School, Dubuque, IA	Not specified	Scores of fourth graders increased from 43 rd percentile to 80 th percentile.	
			Table Mound Elementary School, Dubuque, IA	Not specified	Scores of fourth graders increased from 39 th percentile to 80 th percentile.	
			Bryant Elementary School, Dubuque, IA	Reading	Percent of students at 75 th percentile increased from 24% to 43%.	
				Mathematics	Percent of students at 75 th percentile increased from 41% to 48%.	
			School for the Physical City, New York	Reading	Ranked 29 th of 226 junior high schools; 75% of students at grade level vs. 47% districtwide.	

(continued)

Summary of Effects on Student Achievement for Expeditionary Learning Outward Bound (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Farrell, Leibowitz (1998)	3.0	Iowa Test of Basic Skills	ELOB (Table Mound, Lincoln, Bryant Elementaries) Cohort 1 vs. district	Reading	Scores increased from 12 th to 42 nd percentile at Table Mound, from 6 th to 71 st at Lincoln, and 27 th to 82 nd at Bryant vs. a decrease from 56 th to 52 nd districtwide.	Percentile
				Math computation	Scores increased from 4 th to 91 st percentile at Table Mound, from 10 th to 49 th at Lincoln, and 29 th to 99 th at Bryant vs. from 52 nd to 58 th districtwide.	
				Composite	Scores increased from 4 th to 51 st percentile at Table Mound, from 4 th to 54 th at Lincoln, and 29 th to 85 th at Bryant vs. from 47 th to 52 nd districtwide.	
			ELOB (Table Mound, Lincoln, Bryant Elementaries) Cohort 2 vs. district	Reading	Scores increased from 30 th to 58 th percentile at Table Mound, from 33 rd to 62 nd at Lincoln, and 77 th to 90 th at Bryant vs. no change at 52 nd districtwide.	
				Math	Scores increased from 46 th to 79 th percentile at Table Mound, from 31 st to 70 th at Lincoln, and 89 th to 90 th at Bryant vs. from 55 th to 56 th districtwide.	
				Math computation	Scores increased from 26 th to 85 th percentile at Table Mound, from 7 th to 35 th at Lincoln, and 47 th to 63 rd at Bryant vs. from 45 th to 51 st districtwide.	
				Composite	Scores increased from 28 th to 58 th percentile at Table Mound, from 30 th to 43 rd at Lincoln, and 62 nd to 86 th at Bryant vs. from 48 th to 50 th districtwide.	

Summary of Effects on Student Achievement for Foxfire Fund

No studies on effects of the Foxfire approach on students are publicly available. However, the developer collects and makes publicly available student test data on Foxfire Fund.

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Summary of Effects on Student Achievement for High Schools That Work

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Bottoms, Mikos (1995)	3.0	HSTW Assessment (based on NAEP)	Early achievement (1990) vs. later achievement (1993) at seven "most improved" schools	Reading	Mean score rose from 51.2 to 54 (statistically significant).	Mean
				Mathematics	Mean score rose from 286.5 to 291.7 (statistically significant).	Mean
				Science	Mean score rose from 257 to 273.7 (statistically significant).	Mean
		Course taking patterns	Seven "most improved" schools vs. HSTW goal	Reading	Seven schools average 54 vs. 55.5 (HSTW goal).	Mean
				Mathematics	Seven schools average 291.7 vs. 301.6 (HSTW goal).	Mean
				Science	Seven schools average 301 vs. 280.7 (HSTW goal).	Mean
			"Most improved" vs. new HSTW school	Complete college prep or career major	At "most improved" school, 97% students completed college major; at new HSTW, 51% completed college major.	Percent
			Early course patterns (1990) vs. later course patterns (1993) at seven "most improved" schools	Completed advanced academic courses	Students taking advanced courses in English rose from 78% to 89%, in mathematics from 39% to 51%, in science from 30% to 51%.	Percent
			Early course patterns (1990) vs. later course patterns (1993) for career-bound students at seven "most improved" schools	Completed academic courses	Career-bound students taking 4+ years mathematics rose from 32% to 40%, taking 4+ years science rose from 17% to 26%.	Percent

(continued)

Summary of Effects on Student Achievement for High Schools That Work (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Bottoms, Presson, Johnson (1992)	3.6	NAEP	Students who complete HSTW vocational major at pilot sites making greatest gains before implementation and after vs. college preparatory national average	Reading	HSTW completers' mean score rose significantly, to 53.4.	Mean
				Mathematics	HSTW completers' mean score rose significantly, to 290.3.	Mean
				Science	HSTW completers' mean score rose significantly, to 268.2.	Mean
				Completed academic courses	Before approach, 25% students completed 3 math and 14.6% completed 3 science credits; after approach, 37% students completed 3 math and 23% completed 3 science credits.	Percent
Bradby, Teitelbaum (1998)	3.2	HSTW Assessment	Change over time on HSTW sites	Reading, Math, Science	Of 248 sites, 21 showed improvement in all 3 subject areas, 47 in 2 subject areas, and 94 in at least 1. Common characteristic differences between high performing and low were a core of academic courses and use of computers in vocational studies. In addition students in high-performing schools were to have completed SREB curriculum work and then to report that their guidance counselor encouraged them to take more difficult courses.	Percentages analyses
Emanuel, et al. (1997)	3.5	HSTW Assessment (based on NAEP)	AIM (1993 to 1996)	Reading Math Science	Students improved from 31 st to 47 th percentile. Students improved from 35 th to 49 th percentile. Students did not improve.	Percentile

Summary of Effects on Student Achievement for High/Scope K-3 Model

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Schweinhart, Wallgren (1993)	3.8	Iowa Test of Basic Skills (ITBS); Comprehensive Test of Basic Skills (CTBS); California Achievement Test (CAT); Stanford Achievement Test (SAT)	At three sites, compared High/Scope (HS) groups to both same school (SS) and other school (OS) control groups. At two sites, controls were matched (School 1 and School 2), but at one site (School 3), the High/Scope group was lower on a number of SES variables.	School achievement	Translated test scores into NCE (Normal Curve Equivalents). At School 1: Year 1—High Scope 1st-grade and 2nd-grade students scored higher than SS controls on the ITBS complete composite. Year 2—High Scope 2nd-grade students scored higher than SS controls but lower than OS controls. High Scope 3rd-grade students scored higher than OS controls. Year 3—High Scope 2nd-grade students scored higher than OS controls; 2nd-grade and 3rd-grade High Scope students scored higher than SS controls. At School 2: In Year 1, in all grades, HS students scored higher than SS and OS controls. In Year 2, 1st- and 2nd-grade, HS students scored higher than SS and OS controls. In 3rd grade, HS students scored higher than OS and SS controls. In Year 3, 1st-grade HS students scored higher than SS and OS controls; in 2nd-grade, HS students scored higher than SS controls. On Language, 2nd-grade HS students scored higher than SS and OS controls; 3rd-grade HS students scored higher than OS controls. At School 3: In Year 1, 1st-grade HS students scored higher than SS controls. In Year 2, 2nd-grade HS students scored higher than SS controls. In Year 3, 2nd- and 3rd-grade HS students scored higher than SS controls. Third-grade students also scored higher.	t-tests, Pearson correlation coefficients

Summary of Effects on Student Achievement for League of Professional Schools

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Glickman (undated)	3.2	Dropout Rates	Students in one League high school	Dropout/Retention	Dropout rate went from 12 percent to 9 percent to 6 percent over a 3-year period.	na
Harkreader, Henry (1997)	3.7	Standardized and criterion referenced tests	45 League schools vs. matched control schools	Academic achievement	Mostly no statistically significant difference between League and control schools, but League schools tended to score (nonsignificantly) higher. League schools scored significantly lower for 3 rd grade science.	Paired sample t-tests

Summary of Effects on Student Achievement for Modern Red Schoolhouse

No studies of the effects of Modern Red Schoolhouse were sufficiently rigorous to report the findings here. However, the developer collects and makes publicly available student test data.

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Summary of Effects on Student Achievement for Onward to Excellence

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Kushman, Yap (1997)	3.2	ITBS (reported in NCEs)	High-poverty OTE vs. high-poverty non-OTE	Reading	OTE schools had higher 1-year NCE gains (2.81) than non-OTE schools (which lost .71 NCEs) or the state average (which gained .59).	P<.01, t-test
			High-poverty OTE vs. state average		OTE schools had higher 2-year NCE gains (3.24) than non-OTE schools (which lost .25 NCEs) or the state average (which gained .78).	
		ITBS	OTE vs. matched controls	Reading	OTE students scored slightly (not significantly) lower than control students.	
				Math	Except grade 9, OTE students scored slightly (not significantly) lower than control students.	
		ITBS, SAT	OTE over 3 years	Reading	Scores of OTE students rose and fell slightly (not significantly) over time, with no discernable pattern.	
				Math	Scores of OTE students rose and fell slightly (not significantly) over time, with no discernable pattern.	
			High-implementing OTE schools vs. matched non-OTE schools	Reading	OTE students scored slightly (not significantly) higher than control students.	
Mississippi Department of Education (1998)	3.1	SAT and ITBS	High-implementing OTE schools over time vs. non-OTE schools	Reading	In 4 th grade, steady gain on the SAT for 3 years; small continued gains on the ITBS for 2 years; compared to losses for non-OTE schools.	None reported

Summary of Effects on Student Achievement for Paideia

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Center for Educational Research and Evaluation (1998)	3.0	NC ABC end-of-grade and end-of-course tests	"None" to "lots" of Paideia implementation	Reading (elementary, middle school); math (elementary, middle school); writing (4 th grade); algebra, biology (high school)	The higher the implementation, the higher initial and ongoing achievement.	Percents
		Student questionnaire	High-, medium-, and low-achieving students	Students' perceived effects of Paideia on learning	Students with higher achievement had higher perceptions of the effects of Paideia. Level of implementation did not significantly improve students' perceived learning.	Wilks' lambda F-ratio
Howard (1992)	3.1	Measure of Topic Specific Knowledge	Students randomly assigned to a seminar, lesson, or video of the seminar	Quantity of associations with key concepts	Significant school variation. At one school, seminar group scored highest, followed by lesson group, and then video group. At the other school, lesson and video groups scored higher than seminar group.	MANCOVA
				Quality of associations with key concepts	Significant school variation. At one school, seminar and lesson groups scored higher than video group. At the other school, seminar group scored higher than lesson and video groups and quality was the greatest contributor to group differences in multivariate analysis. Also, scores increased from before to after the lessons for all groups.	
		Essay		Essay scores	Significant school variation. At one school, seminar and lesson groups scored higher than video group and essays made the greatest contribution to differences in multivariate analysis. At the other school, video group scored higher than seminar and lesson groups.	

(continued)

Summary of Effects on Student Achievement for Paideia (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Stringfield, et al. (1997)	3.1	CTBS	Students in Paideia schools vs. national sample of schools	Reading	Paideia students began and ended below the national average.	
				Math	Paideia students began and ended below the national average.	
			vs. national sample of high-poverty schools	Reading	Paideia students began above (1 school) and below (1 school) the national high-poverty average, and ended slightly above.	
				Math	Paideia students began above and below the national high-poverty average, and ended slightly above.	
			vs. matched sample	Reading	Paideia students began above and below matched control average, and ended at and below controls.	
				Math	Paideia students began at and below matched controls, and ended below.	
Tarkington (1989)	3.2	The Cornell Critical Thinking Test, Level X Interview questionnaires	Paideia group and 2 control groups	Critical thinking skills	The quantitative results were mixed. Boys in the experimental group did not make significantly greater gains than boys in the control group, but girls in the experimental group did statistically better than control group girls.	Mean scores; One-way and two-way analysis of variance (ANOVA); χ^2 analysis; Tukey method or t-tests

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Summary of Effects on Student Achievement for Roots and Wings

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Madden, Slavin, Simons (1997)	3.0	Maryland State Performance Assessment Program	4 R&W schools vs. state average	Math	In both 3 rd and 5 th grades, R&W students began below the state average but passed the state average after 4 years of using the approach.	Percent scoring satisfactory or above
		Texas Assessment of Academic Skills	R&W school, before (1995) and after implementation (1996)	Math	Percent passing increased in 3 rd grade (26.7% to 76.7%), 4 th grade (34.2% to 60.9%) and 5 th grade (52.9% to 86.8%).	Percent passing
			R&W school vs. district average	Math	R&W school had higher pass rate in 3 rd grade (76.7 vs. 73.7) and 5 th grade (86.8% vs. 81.5%) but a lower pass rate in 4 th grade (60.9% vs. 75.5%).	Percent passing
		Comprehensive Test of Basic Skills	R&W school, before (1994-96) and after implementation (1997)	Math concepts	In one year of implementation, R&W school improved in 4 th grade (27 percentile points) and 5 th grade (21 percentile points), but not substantially in 3 rd grade (1 percentile point).	Percentile
Ross, Sanders, Wright (1998)	3.0	Tennessee Comprehensive Assessment Program	8 R&W schools vs. 34 district control schools and 40 other district schools, pre-implementation (1995) to post implementation (1997)	Reading	R&W schools scored significantly higher than control (difference in cpn=35.1) and other schools (27.2).	Cumulative percent of norm ¹
				Language	R&W schools scored significantly higher than control (26.8) and other schools (26.1).	
				Math	R&W schools scored (not significantly) higher than control (13.2) and other schools (9.9).	
				Science	R&W schools scored significantly higher than control schools (24.4) and (not significantly) higher than other schools (20.7).	
				Social studies	R&W schools scored significantly higher than control (25.9) and other schools (24.6).	

(continued)

¹ The Tennessee Value-Added Assessment System uses scale scores to produce estimates of mean academic gains for each student, and compares the gains against nationally normed gains for that grade and subject to estimate expected gains for students. The cumulative percent of norm mean gives the percent of expected gains actually attained. A score of 100% (1.0) indicates achievement at the national (expected) level for that subject.

Summary of Effects on Student Achievement for Roots and Wings (Continued)

Source	Research Rating	Measurement Instrument	Group/ Subgroup	Dimension Measured	Effect	Test Statistic
Ross, Sanders, Wright (1998), continued				All subjects	R&W schools were significantly below the control schools (-14.6) and (not significantly) below other schools (-9.17) before implementation. After two years, R&W schools were significantly above control (25.0) and other schools (21.7)	

Summary of Effects on Student Achievement for School Development Program

Source	Research Rating	Measurement Instrument	Group/ Subgroup	Dimension Measured	Effect	Test Statistic
Becker, Hedges (1992)	3.0	Grades	SDP vs. control	Reading	SDP student grades $\frac{1}{4}$ to $\frac{1}{2}$ standard deviation higher than controls. Effects persist or increase over time.	Average grades
				Math	SDP student grades 0 to $\frac{1}{4}$ standard deviation higher than controls. Effects persist or increase over time.	Average grades
		ITBS, MAT	SDP vs. control	Math	SDP students scored $\frac{1}{2}$ standardization or grade equivalent unit higher than controls.	Average grades
		CAT	SDP vs. control	Language	SDP students fared .15 standard deviations higher.	Average grades
Joyner (1990)	3.3	Language National Percentile Score (ITBS)	Experiment vs. control school	Language	SDP>control	P<.04
		Language Local Percentile Score (ITBS)		Language		P<.04
		Final classroom grades		Math		P<.002

(continued)

Summary of Effects on Student Achievement for School Development Program (Continued)

Source	Research Rating	Measurement Instrument	Group/ Subgroup	Dimension Measured	Effect	Test Statistic
Stringfield, et al. (1997)	3.1	CTBS	Students in SDP schools vs. national sample of schools	Reading	Scores in SDP schools rose (gain=19 NCE) relative to scores in control schools.	Average NCE
				Math	Scores in SDP schools rose (gain=22 NCE) relative to scores in control schools.	Average NCE
			vs. national sample of high poverty schools	Reading	Scores in SDP schools rose relative to scores in control schools.	Average NCE
				Math	Scores in SDP schools rose relative to scores in control schools.	Average NCE
			vs. matched schools	Reading	Scores in SDP schools rose relative to scores in control schools.	Average NCE
				Math	Scores in SDP schools rose relative to scores in control schools.	Average NCE

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Summary of Effects on Student Achievement for Success for All

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Jones, Gottfredson, Gottfredson (1997)	3.4	Stanford Achievement Test	SFA students vs. matched controls	Reading	Control students achieved higher than SFA students in grade 1 in reading.	F-test Ancova, MANCOVA, OCS
		Woodcock Reading Mastery Test	SFA students vs. matched controls	Letter-word identification	SFA students achieved higher than control students in kindergarten on letter word identification and word attack.	
		Test of Language Development	SFA students vs. matched controls	Language	Control students achieved higher than SFA students on sentence imitation in kindergarten.	
		Metropolitan Readiness Test	SFA students vs. matched controls	Language	SFA students achieved higher than controls in kindergarten.	
		Teacher achievement rating	SFA students vs. matched controls	Reading and math	SFA students had a higher achievement rating in grade 1; control students had a higher achievement rating in grades 2 and 3.	
Livingston, Flaherty (1997)	3.6	Retention	SFA students vs. matched controls	Rates	SFA students had lower retention in grade 2.	Effect size Grade Equivalent
		Peabody Picture Vocabulary Test	Incoming kindergarten students at SFA schools and students at matched comparison schools	Receptive vocabulary (pretest)		
		Woodcock Language Proficiency Battery, Durrell Analysis of Reading Difficulty	English-speaking students	Phonetic synthesis skills, recognition of common sight words, reading comprehension	SFA students were achieving at between 3 and 6 months greater than comparison. Effect sizes for SFA ranged from +0.23 to +0.87 among cohorts.	
			Spanish bilingual students		SFA scored between 4 and 8 months ahead of students in the comparison group. Effect sizes for SFA ranged from +0.03 to +1.41 among cohorts.	
			Spanish-dominant students (instructed in English)		SFA scored up to about 6 months ahead of students in the comparison group. Effect sizes for SFA ranged from -0.09 to +1.4 among cohorts.	
			Other ESL students		SFA scored 6 months ahead of students in the comparison group. Effect sizes for SFA ranged from 0.0 to +0.96 among cohorts.	

(continued)

Summary of Effects on Student Achievement for Success for All (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Madden, et al. (1993)	3.3	Woodcock Language Proficiency Battery Durrell Analysis of Reading Difficulty	SFA students (SFA) and matched controls (MC) For low (<25%)	Reading ability	For all first-grade students, SFA students scored higher than MC students at all five schools for Word Attack, SFA students scored higher than MC at two schools for the Letter-Word subtest, and at one school for Oral Reading. For low (<25%) first-grade students, SFA students scored higher than MC students on Word Attack at two schools, Letter-Word at two schools, and Oral Reading at two schools. For all second-grade students, SFA students scored higher than MC students for Letter-Word and Oral Reading at all schools and Word Attack at four schools. Second-grade students, SFA students scored higher than MC students at four schools on Word Attack at three schools on Letter-Word, and at two schools on Oral Reading. For all third-grade students, SFA students scored higher than MC at all schools on Oral Reading, at four schools on Letter-Word, and at three schools on Word Attack. For low (<25%) third-grade students, SFA students scored higher than MC students on Letter-Word at three schools, Word Attack, and Oral Reading at two schools.	MANCOVA and ES
Ross, Alberg, McNelis (1997)	3.3	Durrell Oral Reading; Woodcock Passage Comprehension; Woodcock Word Attack, Writing Sample	1 Accelerated School (AS), 1 Success for All (SFA), and 2 locally developed programs (LDP) 43%-54% free/reduced lunch 3 AS and 3 SFA schools. 62%-71% free/reduced lunch	Reading/Writing	LDP schools performed highest of the three on Oral Reading (ES=+.49) but lowest on Word Attack (ES=-.36). AS performed highest on Word Attack, but lowest on Writing (ES=-.30). SFA scored highest on Writing (ES=+.25), but lowest on Passage Comprehension (ES=-.49). On Word Attack, SFA outperformed AS (ES=.28), but did significantly worse on Writing than AS (ES=-.49).	Mean score; effect size Mean score; effect size

(continued)

Summary of Effects on Student Achievement for Success for All (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Ross, Nunnery, Smith (1996)	3.4	Peabody Picture Vocabulary Test (PPVT) Woodcock Reading Mastery Tests Durrell Analysis of Reading Difficulty	SFA students (SFA) compared schools using other approaches (e.g., Reading Recovery). (MCs) Lower SES schools Higher SES Schools All SES Schools	Language development (pretest) Reading	Used as a covariate for reading analyses. For the entire sample, SFA students scored higher than students at one or more MC schools on all reading subtests. For native Spanish-speaking students, SFA students scored higher than one MC school on Woodcock Word Attack. No differences between SFA and others. Higher performance for SFA students than MC or Word Attack SFA students also scored higher than at least one MC school on all reading subtests. Also, similar to the lower SES group, for native Spanish-speaking students, SFA students scored higher than MC students on Woodcock Word Attack. SFA-tutored students outperformed other tutored students on all subtests.	MANCOVA and ES
Ross, Smith, Casey, Slavin (1995)	3.4	Peabody Picture Vocabulary Test (PPVT) Woodcock Reading Mastery Tests Durrell Analysis of Reading Difficulty	In the same district, students in two schools using Success for All (SFA) were compared against a school using Reading Recovery (RR).	Language development (pretest) Reading	Used as a covariate for reading analyses. In the overall sample, SFA students scored higher than RR on the Woodcock Word Attack subscale. For tutored subjects, RR students scored higher than SFA on the Woodcock Passage Comprehension. For non-tutored subjects, SFA students scored higher than RR on Woodcock Word Attack. However, when controlling for number of students with IEPs, the RR advantage for tutored subjects was no longer apparent.	MANCOVA and ES

(continued)

Summary of Effects on Student Achievement for Success for All (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Ross, Smith, Slavin, Madden (1997)	3.5	Unknown Woodcock Reading Mastery Tests Durrell Analysis of Reading Difficulty	SFA Students (SFA) and matched controls (MC), Teachers at SFA schools, and minority vs. non-minority students in SFA and MC schools.	Language development (pretest) Reading	Results reported in Slavin et. al (1996) repeated. See effects of Slavin et al. (1996) for language development and reading effects. Differences in ES for minority and non-minority students were seen for Fort Wayne sample. In MC schools, non-minority students consistently performed higher than minority students. In SFA schools, non-minority students scored higher than minority students only on the pretest. On post-test reading tests, minority students scored higher than non-minority students with ES of .19, .31, and .41 for 1 st , 2 nd , and 3 rd grade respectively.	ES, narrative of responses
Slavin, Karweit, Wasik, Madden, Dolan (1994)	3.6	Test of Language Development (TOLD) Merrill Language Screening Test Woodcock Language Proficiency Battery Durrell Analysis of Reading Difficulty Differences in funding beyond Title I Allotment	SFA Students (SFA) and Matched Controls (MC) Fully funded and non-fully funded schools	Language development (pretest) Reading Program implementation	Language development used as a covariate. In reading proficiency (scores averaged across the two reading measures), SFA students scored higher than MC. For all students, ES were .46, .51, and .51 in 1 st , 2 nd , and 3 rd grade respectively. For students in the lowest 25% of performance, ES were .72, .91, and .99. However, a majority of SFA students were still performing below grade level in reading. A trend for schools with more years of implementation to show greater effect sizes was reported. For all students across grade levels, ES was .55 for fully funded and .47 for non fully funded (SFA students scored higher than MC). For the "most at-risk" students, ES were 1.04 and .63 respectively.	MANCOVA w/pretests covaried, effect sizes across multiple cohorts ES across grade levels

(continued)

Summary of Effects on Student Achievement for Success for All (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Slavin, Madden (1998)	3.4	Peabody Picture Vocabulary Test (PPVT)	SFA students (SFA) and matched controls (MC)	Language development	Language development used as a covariate.	MANCOVA and ES
		Woodcock Language Proficiency Battery	Francis Scott Key Asian Non-Asian	Reading	SFA students scored higher than MC students on every subtest at both grade 4 and 5. SFA students scored higher than MC in fourth grade on Word Identification and fifth grade on Word Identification and Word Attack.	
		Spanish Woodcock	LEP (Hispanic)		Third-grade SFA scored higher than MC students on all three Spanish subtests and on the Word Attack English subtest.	
			California Spanish Bilingual		Overall effect sizes (SFA students scored higher than MC) were 1.03, .44, and .23 for 1 st , 2 nd , and 3 rd students respectively.	
			Spanish ESL		Effect sizes were 1.36, .46, and .09 for 1 st , 2 nd , and 3 rd grade students respectively.	
			Other ESL		Effect sizes were .40, .37, and .05 for 1 st , 2 nd , and 3 rd grade students respectively.	
			Arizona		SFA students scored higher than students at one MC school on Word Attack.	
			Low SES schools		SFA students scored higher than students at both of the other schools.	
			Mid-SES schools		For tutor subjects in the mid-SES strata SFA students scored higher than students receiving Reading Recovery on all subtests.	
			Houston		Both schools having low implementation of a bilingual SFA program and a high implementation are showing SFA students scored higher than MC students on Word Identification and Word Attack subtests.	

(continued)

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Summary of Effects on Student Achievement for Success for All (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Slavin, Madden, Dolan, Wasik, Ross, Smith, Dianda (1996)	3.6	Peabody Picture Vocabulary Test (PPVT)	SFA Students (SFA) and Matched Controls (MC)	Language development (pretests)	Language development used as a covariate.	MANCOVA w/pretests covaried, effect sizes across multiple cohorts
		Woodcock Reading Mastery Test		Reading	Across sites, in reading proficiency (scores averaged across the three reading measures), SFA students scored higher than MC. For all students, ES were .53, .50, .43, .53, and .68 for 1 st , 2 nd , 3 rd , 4 th , and 5 th grade students respectively. In univariate analyses, SFA students scored higher than MC students on every subtest at every grade level.	
		Durrell Analysis of Reading Difficulty			Results were similar.	
		Gray Oral Reading Test	Low achieving students (<25%) Francis Scott Key			
			Asian		Effect sizes were 1.76, 1.46, and 1.44 for 3 rd , 4 th and 5 th grade students respectively.	
			Non-Asian		For non-Asian students, effect sizes were 1.00, .96, and .78 for 3 rd , 4 th , and 5 th grade students respectively.	
			Fairhill		At Fairhill, at the end of grade 2, SFA students scored higher than the control students on every measure.	
			California		Effect sizes were .46, .35, 1.03, 1.02, and .23 for all students; English-speaking students; Spanish-speaking students in bilingual program; Spanish-speaking students in ESL program; and other language students in ESL program respectively.	
			Caldwell, ID		.17 effect size advantage for SFA students over Reading Recovery students.	
			Special Education		Differences for special education students were .77.	

(continued)

Summary of Effects on Student Achievement for Success for All (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Slavin, Madden, Karweit, Livermon, Dolan (1990)	3.2	Test of Language Development (TOLD)	SFA Students (SFA) and matched controls (MC)	Language development (pretest and K)	For preschool, SFA students scored higher than MC students on some of the TOLD pretests and on Merrill Language Screening Test—ES from .32 to .73. For kindergarten, ES were from .24 to .93, with the exception of one subtest of 3.75.	MANCOVA w/pretests covaried, effect sizes
		Merrill Language Screening Test Woodcock Language Proficiency Battery Durrell Analysis of Reading Difficulty CAT Reading		Reading	On scores averaged across the Woodcock and Durrell, SFA students scored higher than MC students. For all students, ES averages were .67, .28, and .95 in 1 st , 2 nd , and 3 rd grade respectively. For students in the lowest 25% of performance, ES were 1.10, .32, and .99. Significant differences were found for some, but not all Woodcock and Durrell subtests with a greater number of differences seen in analyses of all students as opposed to low-achieving (<25%) students. Significant differences in CAT were that 2 nd grade SFA students scored higher than MC students on one subtest and third-grade SFA students scored higher than MC students on both subtests.	
Smith, Ross, Casey (1996)	3.2	Peabody Picture Vocabulary Test (PPVT) Test of Language Development (TOLD) Merrill Language Screening	SFA Students (SFA) and matched controls (MC) Memphis Low achieving students	Language development (pretest & K)	Language development used as a covariate.	MANCOVA and ES

(continued)

Summary of Effects on Student Achievement for Success for All (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Smith, Ross, Casey (1996), continued		Woodcock Reading Mastery Test	Montgomery	Reading	For kindergarten students in year 1, SFA students scored higher than MC students on Word Identification and Oral Reading. For first-grade students in year 2, SFA students scored higher than MC students on Word Attack, Word Identification, and Passage Comprehension.	
		Durrell Analysis of Reading Difficulty		Reading	SFA students scored higher than MC students on Word Identification, Word Attack, and Oral Reading. For second-grade low-performing (<25%) students in year 3, SFA students scored higher than MC students on all tests.	
				Reading	In the first two years, no significant results were found. After year 2, there was some rearranging of schools and controls (e.g., dropping and adding control and SFA schools), and subsequently SFA students scored higher than MC students on a number of subtests in year 3.	
				Reading	For kindergarten students, SFA students scored higher than MC students on the Merrill Test. For first grade students, in year 1, SFA students scored higher than MC students on Word Identification, Word Attack, and Oral Reading. SFA low-performing (<25%) first-grade students scored higher than MC students on Word Identification and Word Attack. For second grade students, in year 2, SFA students scored higher than MC students on Word Identification.	
			Caldwell	Reading	For kindergarten students MC students scored higher than SFA students on Letter and Word Identification. For first grade low-performing students in year 1 and for all first grade students in year 2, MC students scored higher than SFA students on Word Identification. Also in year 2, MC first-grade students scored higher than SFA students on Word Identification and Oral Reading. SFA second-grade students scored higher than MC students on Passage Comprehension.	

(continued)

Summary of Effects on Student Achievement for Success for All (Continued)

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
Stringfield et al. (1997)	3.1	CTBS	Students in SFA schools vs. national sample of schools	Reading	The well-implemented SFA school began over 20 NCEs below the national sample, and ended less than 5 NCEs below. The poorly implemented SFA school maintained scores relative to national sample.	
				Math	SFA began and ended below national sample.	
			vs. national sample of high poverty schools	Reading	The well-implemented SFA school began below and ended above high poverty schools. The poorly implemented SFA school closed the gap slightly.	
			vs. matched sample	Math	SFA began at high poverty average and ended below. The well-implemented SFA school began below and ended above matched sample. The poorly implemented SFA school maintained scores relative to the matched sample.	
Venezky (in press)	3.1	Woodcock Passage Comprehension Test Comprehensive Test of Basic Skills California Achievement Tests	Both Success for All (SFA) group and matched control (MC) group comparison to national norms	School achievement	Although the SFA group performed better than the MC group, the SFA group still scored significantly below national norms (e.g., only 12.5% read at or above grade level after 6 years of SFA). In addition, amount of time in SFA school did not seem to make a difference on test performance.	MANCOVA and ES

Summary of Effects on Student Achievement for Talent Development High School

Source	Research Rating	Measurement Instrument	Group/Subgroup	Dimension Measured	Effect	Test Statistic
McPartland, Balfanz, Jordan, Legters (1998)	3.3	MD Functional Exam	School vs. rest of district	Mathematics	56% pass vs. 35% avg. district pass.	Percent pass rates
				Writing	57% pass vs. 53% avg. district pass.	
		MD Functional Exam	School (1997) vs. School (1994)	Mathematics	56% pass vs. 28% pass (1994).	
				Reading	85% pass vs. 86% pass (1994).	
				Writing	57% pass vs. 59% pass (1994).	

Summary of Effects on Student Achievement for Urban Learning Centers

No studies on the effects of Urban Learning Centers were sufficiently rigorous to report the findings here. However, the developer collects and makes publicly available test score data on Urban Learning Centers.

APPENDIX D

CRITERIA TO EVALUATE SUPPORT DEVELOPERS PROVIDE SCHOOLS

This report presents information on four aspects of implementation: 1) the support developers report they provide schools; 2) the steps developers require or encourage schools to take to implement the approaches; 3) the scope of implementation in terms of how long the approach has been in schools and how many schools are implementing it; and 4) findings from research on implementation. Although the report contains information on all four aspects, only the first—support that developers provide schools—is rated.

Support the Developer Provides Schools

Review Process

To rate the level of support developers¹ provide schools as they implement the approaches, AIR reviewed materials developers provided as well as information gathered in telephone interviews with each developer. Each researcher was responsible for several of the 24 approaches. For each approach, the researchers asked the developer a series of questions on professional development and technical assistance, reviewed informational materials provided by the developer, and conducted telephone interviews with at least three schools using the approach (see Appendix G). The researchers then described the findings in the profiles (see *Support the Developer Provides Schools*) and assigned a rating to each approach based on these findings and the rating criteria described below. The project developer reviewed all ratings, in many cases rereading original materials or speaking with approach developers to clarify ambiguous points. Developers were given an opportunity to review their profiles, including the support ratings, and provide supplementary evidence if they felt their approaches had been mis-rated.

Review Criteria

AIR considered the following factors in developing the rating criteria:

- *Access to appropriate types of support:* Most developers offer a variety of types of support (e.g., visits from the developer, newsletters, telephone consultation with the developer, access to the developer's Web site) to meet a range of needs. Some developers provide proactive, on-site assistance, to help schools work through issues with implementation before problems undermine the implementation process.
- *Frequency and duration of support:* Frequency of contact and duration of support indicate the level of interaction schools might expect of the developers. Developers may work closely with each school, or may provide an approach and encourage the schools to work independently towards reform.
- *Tools to help schools evaluate their implementation progress:* Some developers provide benchmarks against which schools can monitor their implementation of the approach. Others help schools develop their own implementation plan, including schedules for expected progress.

Based on these factors, the following rating criteria for evaluating the implementation support developers provide schools were developed:

● = **Strong support for schools**

- Developers provide training before implementation.
- During the first year of implementation, developers schedule at least four on-site technical assistance visits to provide schools with regular guidance OR developers provide extensive training (e.g., at least one week in the first year) to a full-time on-site facilitator.
- Developers provide off-site support (e.g., technical assistance through an interactive Web site, on-line assistance, over the telephone, or at off-site meetings).
- Developers provide supportive materials (e.g., newsletter, non-interactive Web site).
- Developers provide training and technical assistance support for at least three years.
- Developers provide an indicator system or help schools develop their own indicator system to track implementation progress.

◐ = **Promising support for schools**

- Developers provide training before implementation.
- During the first year of implementation, developers schedule at least one on-site technical assistance visit to provide guidance OR developers provide extensive training to a part-time on-site coordinator.
- Developers provide off-site support.
- Developers provide support for at least three years.

◑ = **Marginal support for schools**

- Developers provide training before implementation.
- In addition to training before implementation, developers provide access to on- or off-site support in response to schools' requests through the first year of implementation.

○ = **Weak support for schools**

- Developers do not provide any specialized technical assistance beyond training before implementation.

As AIR applied these rating criteria to the information developers had provided, we clarified three areas of ambiguity. The first relates to developers' efforts to support schools' full implementation of their approaches. Many developers help schools evaluate the outcomes of their approaches, particularly changes in student achievement. But these evaluations may not be sufficient to support the implementation process. Therefore, the rating system also focuses on developers' efforts to help schools monitor and/or evaluate their implementation of the approaches by tracking changes in curriculum, instruction, governance, school organization, and so on.

The second area of ambiguity is the distinction between proactive and reactive assistance. Most developers emphasize that they are available in response to questions or concerns voiced by school staff. To earn a high support rating, however, the developer must provide frequent guidance throughout the process as a matter of policy, without waiting for problems to surface.

Finally, some developers train on-site coordinators rather than sending their own staff to schools for technical assistance visits. These rating criteria recognize that the developers' requirements for coordinators affects the level of implementation support that schools experience. If a developer requires the coordinators to make a full-time commitment, and trains them accordingly, the approach receives a higher implementation support rating than if the developer requires the coordinators to make a part-time commitment, and trains them accordingly.

Implementation Requirements

Each profile describes the steps that developers require or strongly recommend schools take as they implement the approaches (see *Implementation Requirements and Schools' Experiences*). This information was drawn from interviews with the developers (see Appendix G) and supplemented with informational materials provided by the developers.

Scope of Implementation

The year the approach was first used in a school and the number of schools using the approach as of October 30, 1998 are reported in the profiles and on the table on page 4 of the guide.

Research Findings

In addition to information on implementation from the developers, AIR examined implementation successes and challenges reported in studies. This information is reported in Appendix E, and summarized in the profiles (see *Implementation Requirements and Schools' Experiences*).

AIR drew implementation data from studies that: reported student achievement outcomes (which also were reviewed for methodology, using the EREA process described in Appendix G); and focused on implementation exclusively.² AIR reviewed these studies in different ways. For the outcome studies, we evaluated whether the schools in the studies fully implemented the most important aspects of the approach. For implementation studies, we evaluated implementation of the most important aspects of the approach, as we had done with outcome studies, and we also summarized major findings using a series of questions on implementation. These steps—evaluating implementation and summarizing implementation findings—are described below.

Evaluating Implementation

To evaluate the information each study contained about schools' implementation of an approach, AIR: 1) identified critical components of each approach; 2) reviewed studies for evidence that schools had implemented these components; 3) assigned an implementation rating for each component; and 4) assigned an overall implementation rating. Each researcher was responsible for reviewing outcome and implementation studies for several approaches.

To identify critical components of the approaches, AIR researchers interviewed the developers (see Appendix E for the Interview Guide) and reviewed promotional materials. During telephone interviews, the researchers asked the developers to describe the following elements of the approach:

1. time and scheduling requirements;
2. student placement and scheduling requirements;
3. staffing and professional development requirements;
4. instructional materials;
5. professional development;
6. procedures to monitor student progress and performance;
7. administrative support needed to support implementation; and
8. family or community involvement.

AIR researchers asked each developer to rate each element as "critical," "not critical," or "not relevant" to successful implementation.

Next, the researchers reviewed both outcome and implementation studies for evidence that the schools in the studies had implemented the approaches consistent with the developers' expectations. For each approach, a researcher completed information about each component (e.g., time and scheduling requirements); indicated whether the component was "critical," "not critical," or "not relevant," to implementation according to the developer; noted relevant information about a school's implementation (e.g., "grouping was homogeneous, as recommended, but regrouping did not occur as frequently as recommended"); and judged whether the school's implementation of each component, was "good," "adequate," "poor," or "not clear."

The researcher then gave each study an overall implementation rating. A study was rated "good" if the implementation of all critical components was good and the implementation of all non-critical components was good or adequate; "adequate" if the implementation of all critical components was good or adequate and the implementation of one non-critical component was poor; "weak" if implementation of no more than one critical component was poor and the implementation of all other components was good or adequate; and "inadequate" if more than one critical component was poorly implemented.

The process of maintaining inter-rater reliability for outcomes studies is described in Appendix G; this process also applies to the implementation ratings section of the review. For implementation studies, the project director reviewed implementation ratings for 10 percent of the studies. In cases of discrepancy, the project director and researcher reviewed the data and reached consensus on the rating. In such cases, the discrepancies and supporting evidence for the final rating were documented.

In practice, this rating system was limited by the information provided in the studies. Many studies provided little or no information on the schools' implementation of components the developers considered critical.

Summarizing Implementation Findings

To summarize findings from implementation studies, AIR evaluated the implementation of critical components of each approach using the procedures discussed above. In addition, AIR researchers reviewed findings from each implementation study using the following questions as guidelines:

1. How long had the school been using this approach at the time of the study?
2. How did the school select the approach?
3. If the approach involves a planning period, how long did the planning period last? Was that enough time to prepare? Too much time?
4. How did the study evaluate quality of implementation? For example, did the study look at progress towards milestones? Survey teachers on their satisfaction with or the effectiveness of the approach?
5. How did the school implement the approach—were all components operationalized simultaneously, schoolwide? Were some components or grades phased in? How did this approach to implementation seem to affect the quality of the implementation?
6. What components of the approach are especially difficult to implement?
7. Typically, what happens when the school tries to implement these difficult components?
8. What components of the approach are especially easy to implement?
9. What qualities of the approach/school/staff/technical assistance/etc. contribute to successful implementation?
10. Did the school make any adaptations to the original design? If so, give an example of the adaptation, and describe the reasons for making that adaptation. Did the adaptation work?
11. How much technical assistance did the school receive? What types of support? What was the source?
12. How much professional development related to the approach did the school receive? What was the source?
13. If the study includes information about costs, describe those data. What expenditures were beyond the expenditures described by the developer?
14. Describe major findings of the implementation study, if they are not captured by the questions above.

Findings for each implementation study are reported in Appendix E, and findings across studies are summarized in the profiles.

¹ For some approaches, such as Accelerated Schools and Direct Instruction, implementation support is available from sources other than the developer.

² In many cases, the distinction between outcomes and implementation studies was ambiguous. AIR used this decision rule: studies that reported any outcome data at all were considered outcomes studies. Researchers reviewed those studies using the EREA (including the implementation rating). All other studies that reported implementation data were considered implementation studies. Some of the "outcomes" studies that were reviewed with the EREA focused primarily on implementation. These studies tended to not pass the EREA criteria for rigorous methodology. Although initially identified as outcomes studies, these studies also were reviewed as implementation studies. Thus, the studies whose classification was most ambiguous—both outcomes and implementation—were reviewed as both types.

APPENDIX E
SUMMARY OF FINDINGS ON
IMPLEMENTATION

Summary of Implementation for Accelerated Schools

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Knight, Stallings (1995)	1	Original	1 year	Elementary	Urban	Low SES	Changes include improved teacher and student expectations; gains in student achievement; gains in teacher and student attendance.
Levin (1994)	3	Replicate	na	Elementary	na	na	Teachers felt free to re-examine their teaching, take risks, and experiment with different strategies. Classrooms became more constructivist with many projects originated by students. Some schools cited improved test scores, fewer discipline problems. Cautions: expect this process to take up to 6 years; schools must provide adequate training and support.
Levin (1995)	4	Replicate	na	Middle, elementary	na	Low SES	Standardized test scores rose in all schools. Other results include: increased parent involvement, fewer behavior problems, decreased retention in grade. Study cites the need for more attention to capacity building, need for more staff time, and the need to tap the potential of parents as continuing challenges in these schools.
McCarthy, Still (1993)	1	Replicate	3 years	Elementary	Urban	91% low SES; 85% LEP	Despite an increase in LEP students, vandalism decreased, parental involvement increased, and the number of community volunteers increased.
Peters (1996a)	1	na	na	Elementary	na	Special education students	Aspects of Accelerated Schools that facilitate learning for special education students: team work or collaboration among teachers, an adaptable curriculum, students feeling a greater sense of belonging than with pull-out programs, increased parental involvement. Adequate collaborative teacher planning time is critical.

(continued)

Summary of Implementation for Accelerated Schools (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Peters (1996b)	1	na	na	Middle	na	Special education students	Collaborative teamwork and a sense of community are critical components of the approach. Special education teachers often feel isolated, and this remains a challenge.
Peters, McBride (1997)	46 ¹	na	na	43 Elementary	na	72% minority	Most schools defined "acceleration" as an instructional strategy (e.g., hands-on learning) rather than an approach that incorporates such strategies. Challenges to implementation: conceptualizing approach as on-going process; meeting needs of low-achieving students; professional development; staff enthusiasm and involvement; and time.
Weisman (1994)	1	Replicate	2 years	Elementary	Urban	80% public assistance	Parent involvement rose. Teachers focused on student strengths or "power learning." Concerns include that it is a "slow, frustrating" process and that it relies heavily on the involvement of the current principal and so may not last.

¹ Survey of 219 "individuals and schools associated with the Accelerated Schools concept"; response rate of 21 percent.

Summary of Implementation for America's Choice

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Bodilly, Keltner, Purnell, Reichardt, Schuyler (1998)	7	Replicate	2 years	na	7 urban	na	Showed lower levels of implementation than other approaches. Focused on non-core elements. Two sites demonstrated capability to combine AC with other approaches.
Bodilly, Purnell, Ramsey, Keith (1996)	5	Original	2 years	K-5 (4), 6-8 (1)	3 urban, 2 rural	37-93% free lunch	Some progress made on all components. Beginning progress: instruction, curriculum, student assignment, integrated social services. Moderate progress: standards, assessments, community involvement, professional development, district governance, state governance, staff and organization. Substantial progress: school governance. School committees organized around central implementation tasks resulted in more focused efforts. Number of sites and complexity of plan presented problems for implementation.
Bodilly, Purnell, Ramsey, Smith (1995)	5	Original	Planning phase	K-5 (4), 6-8 (1)	3 urban, 2 rural	37-93% free lunch	America's Choice characteristics that contribute to good implementation: design team leaders experienced in school reform. America's Choice characteristics that slowed implementation: new team members, creating structure and staff, large number of sites, comprehensiveness of design.

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Summary of Implementation for ATLAS Communities

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Bodilly, Keltner, Purnell, Reichardt, Schulyer (1998)	5 schools	Replicate	2 years	na	Urban	na	Slow to begin implementation (perhaps because of minimal district support). In the second year of implementation, half of the schools were piloting the approach.
Bodilly, Purnell, Ramsey, Keith (1996)	2 pathways 11 schools	Original	2 years	K-12	Rural, urban	16-92% free lunch	Schools chose to postpone implementation of some components (i.e., decentralizing management, staffing, integrated social services). Modest progress implementing: standards, community involvement, professional development, school and district governance, staff and organization. Difficult to implement: instruction, curriculum, assessment, student assignment, integrated social services.
Bodilly, Purnell, Ramsey, Smith (1995) ¹	2 pathways 11 schools	Original	Planning phase	K-12	Rural, urban	16-92% free lunch	Funding problems affected professional development, slowed start of implementation. Characteristics that slowed implementation: focused on many elements (e.g., instruction, standards, governance); involved many collaborators (e.g., school, district, social services agencies); strategy, curriculum, materials developed by school.

(continued)

¹ This study examines the same ATLAS pathways and schools as Bodilly, Purnell, Ramsey, and Keith (1996).

Summary of Implementation for ATLAS Communities (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Rosenblum Brigham Associates (1998) ²	2 pathways 3 schools	Original	5 years	K-12	Urban	57% Caucasian; 39% African-American; 55% free lunch	Well implemented: changing school organization and schedule; using student exhibitions; instructional changes (i.e., interdisciplinary lessons focused on "essential questions," lesson planning). Poorly implemented: pathway (did not include all elementary or middle schools that feed high school).
	6 schools				Suburban/rural	Mostly Caucasian	Well implemented: pathway (all schools in district); instructional changes (i.e., portfolios, three-way conferences, student projects). Poorly implemented: school management (management decentralized some, but not as much as approach advocates); exhibitions (not well integrated).
Ross, Troutman, Horgan, Maxwell, Laitinen, Lowther (1997)	1 pathway 3 schools	Replicate	1 year	K-12	Urban	na	Well implemented: study groups, instructional changes, School Planning and Management Team. Poorly implemented: professional development (few teachers at intensive training, training too abstract), pathway.

² The second district in this study was one of the two districts examined in Bodilly, Purnell, Ramsey, and Smith (1995).

Summary of Implementation for Audrey Cohen College: Purpose-Centered Education

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Bodilly, Keltner, Purnell, Reichardt, Schuyler (1998)	4 schools	Replicate	2 years	K-12	Urban	70% avg. free lunch	Moderate level of implementation. Slim field structure and leadership challenges.
Bodilly, Purnell, Ramsey, Keith (1996)	3 schools	Original	2 years	K-8	Urban	40-90% free lunch	Well on way toward goals/significant progress; 1 of the 2 most implemented of 9 models studied.
Bodilly, Purnell, Ramsey, Smith (1995) ¹	10 schools	Original	Planning phase	K-12	Urban	70% avg. free lunch	Design team ready; strong background.
Ross, Troutman, Horgan, Maxwell, Laitinen, Lowther (1997)	4 schools	Replicate	1 year	K-12	na	na	Greater implementation related to teachers' understanding of design and willingness to restructure curriculum. Greater implementation for lower grade levels.

¹ The study examines the same Audrey Cohen College Schools as Bodilly, Purnell, Ramsey, and Keith (1996).

Summary of Implementation for Basic Schools Network

No studies on implementation of the Basic Schools Network are publicly available. The full report on the Basic Schools Network will be released in spring 1999.

Summary of Implementation for Coalition of Essential Schools

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Ancess (1995)	5 schools	Replicate	na	3 high schools 2 elementary schools	4 urban, 1 suburban		Five schools affiliated with CES successfully implemented authentic assessments consistent with CES common principles.
Anderson, Shirley (1995)	15 schools in larger study; 6 for this part	Replicate	9 months	High school	Mixed	na	The likelihood of project success rests with the principal; principals must assume different roles to ensure project success.
Cohen (1994)	1 school	Replicate	2 years	9th grade	Suburban	na	Implementation of the planned changes was hindered by: 1) personality conflicts and differing ideas of actions to be taken; 2) problems in defining just what is meant by "collaboration"; 3) unsupportive school and district administrators; and 4) inadequate funding.
Darling-Hammond, Ancess Falk (1995)	5 schools	Replicate	na	3 high schools 2 elementary Schools	4 urban 1 suburban		Five schools affiliated with CES successfully implemented authentic assessments consistent with CES' common principles.
Dawson, Bartunek (1995)	20 schools surveyed (17 respondents)	Replicate	5 years	High school	5 rural, 4 suburban, 11 urban	na	Schools had defined the Common Principles similarly, but their understanding of the principles did not seem to be very deep. They did not recognize the interconnectedness of the principles.
Desmond (1992)	1 school	Replicate	1 year	10th grade	Small city	75% minority; 25% Caucasian	Increased student responsibility for the construction of knowledge and a change in teachers' assessment methods with an increase in assessment as an integral component of instruction.
Hampel (1995)	8 schools	Replicate	5 years	3 high schools 3 middle schools 2 elementary schools	na	na	Four types of teacher response to the CES approach are identified, the "vanguard," the "yes, but...", the "sleepy," and the "cynical."

(continued)

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Summary of Implementation for Coalition of Essential Schools (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
King, Louth, Wasley (1993)	1 school	Replicate	na	High school	na	na	The interactions between researchers and school staff, and school staff members' reactions to the researchers' report, revealed how difficult it was for school staff to read anything critical of their practice, even when positive comments were also made. The collaboration, however, helped the school better identify what it wanted from its reform effort.
Malloy (1996)	1 school	Replicate	1 year	High school	Rural	68% Caucasian; 32% African-American	Findings of this study of a pilot school-within-a school project include: 1) the image of the program was positive in the school community; 2) teacher commitment to implement instructional changes was uneven; 3) students outside the school-within-a-school thought that the program inflated participating students' grades; and 4) evaluation of the effectiveness of the program was difficult to conduct because the students in the program were not like their peers in the larger school. (School-within-a-school students were more likely to be white than their whole-school counterparts.)
McDonald (1996)	10 schools	na	Minimum of 5 years	High school	4 urban, 5 suburban, 1 rural	Mixed socioeconomic status	Local context affects the design of the approach at each school, so there is no standard model; focus on "ordered threesome" of core beliefs, distribution of certain resources, and links with outside values and ideas.

(continued)

Summary of Implementation for Coalition of Essential Schools (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Muncey, McQuillan (1996) ¹	8 schools	Replicate	5 years	High school	Mixed	na	Reports findings of the School Ethnography project, a five-year study of 8 CES schools. Findings of the project included: 1) because not all teachers in schools felt change was necessary, it was difficult to get these teachers to participate in the project; 2) change is always political; 3) historically "successful" and "unsuccessful" schools did not make similar types of changes as a result of CES participation; 4) schools with high dropout rates and poor attendance could achieve some success, but schools already "successful" were unsure how to define success; 5) the more pervasive the changes—that is, the more schoolwide—the more likely that changes will endure; 6) similarly, the school-within-a-school model employed by several schools did not evolve into schoolwide change, and it typically created tensions among faculty members; 7) teachers had insufficient time for planning and reflection in most schools; 8) despite insufficient time, there was a sense in these schools that self-reflection on the part of teachers and schools is important; and 9) depth of reform at all levels was often sacrificed for breadth.
Prestine (undated) ²	4 schools	Replicate	9 years	1 high school (9-12); 1 junior high (7-8); 1 middle (6-8); 1 secondary (7-12)	Small city, midsize city, suburb, rural	na	Findings included: 1) over time, schools' efforts to become "essential" schools became diluted in larger patterns of district-initiated reform efforts; 2) schools experienced conflict between attempting to implement the Common Principles and the daily need to "keep school"; 3) factors outside teachers' control (e.g., new state mandates, departures of administrators) had dramatic effects on school reform efforts; 4) even when there is agreement on what the goals of reform should be, disagreement about how to achieve the goals can be considerable.

(continued)

¹ See also Muncey 1994; McQuillan and Muncey 1994; Muncey and McQuillan 1993.

² Prestine (1998) evaluates implementation in the same schools after five years of implementation, findings in the two studies are consistent.

Summary of Implementation for Coalition of Essential Schools (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Prestine, Bowen (1993)	4 schools	Replicate	2.5 years	1 high school (9-12); 1 junior high (7-8); 1 middle (6-8); 1 secondary (7-12)	Small city, midsize city, suburb, rural	na	Six factors that affected schools' ability to change include: 1) uncertainty about the meaning of the Common Principles is a barrier to reform; 2) schools were aggressive in making use of the opportunity presented by the Re: Learning Project, but they differed in how they saw that opportunity; 3) the more successful schools in the reform effort saw changes as means, not ends; 4) it was difficult for schools to gauge their capacity for change, sometimes being too ambitious and sometimes not ambitious enough; 5) a combination of "top-down participation" and "bottom-up initiative" was important to successful change; and 6) a balance between change and stability is important.
Prestine, Bragg (undated)	2 schools	Replicate	5 years	High school	Rural, suburb	300 students 2,800 students	CES and Tech Prep initiatives were marginalized within the context of the larger comprehensive high school, though the "essential school" program somewhat less so. This was particularly true of the suburban "essential" school-within-a-school—a high school already perceived by its community as very successful. The authors noted that, "At once a great strength and a great weakness, the Coalition's adamant refusal to adopt any kind of 'model' for essential school change left schools floundering as there simply were not any benchmarks by which to gauge either progress toward implementation or fidelity to intent."
Raywid (1994)	1 school	Replicate	na	High school	Urban		Teachers successfully adopted practices consistent with CES' Common Principles. Flexible scheduling allowed programmatic purposes, rather than a rigid schedule to dictate when students learn.

(continued)

Summary of Implementation for Coalition of Essential Schools (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Shirley, Anderson (1994)	15 schools in one part, 6 schools in others	Replicate	9 months	High school	Mixed	na	Findings includes: 1) teachers and administrators differed in their understanding of the Common Principles (though they also say they agree with the Principles); 2) they perceive some Principles as more important than others and some as more difficult to implement than others; 3) it was unclear in many schools where leadership in the reform effort lay; 4) a "critical mass" of teachers in most schools already teach in ways consistent with the Principles; and 5) major changes would have to take place if the Principles were to be implemented successfully.
Stapleford (1994)	1 school	Replicate	na	High school	Rural	Predominantly Caucasian	Findings include: 1) a greater emphasis on faculty dialogue in the CES school; 2) the CES school was able to overcome the liability of an unsupportive principal; 3) no fundamental changes in teacher-administrator roles and relationships; 4) limited parental involvement; and 5) more use of cooperative learning and student exhibitions in the CES school.

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Summary of Implementation for Community for Learning

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Oates, Flores, Weishew (1997)	1 school	Replicate	1 year	Middle	Urban	93% low-income; 78% Hispanic	Implementation was high. For example, school staff used meetings, common weekly preparation time, an on-site graduate level course offered to teachers, and several projects to foster parent involvement.
Reynolds, et al. (1992)	3 schools	Replicate	5 years	Elementary	Rural	25% Chapter 1	Same curricula used in all 5 years of study. Schools used mastery exams.
Temple University (1997)	5 schools	Original	1 year	Elementary	Urban	High poverty, low achievement	Pre-implementation was feasible; the pre-implementation training provided school staff with sufficient knowledge and skills to implement the program; classroom instructional practices did in fact change as a result of the program; student achievement improved.
Wang (1983)	138 teachers in 10 districts	Replicate	Varied	Elementary	Varied	Varied	The average degree of implementation, as measured by ALEM's 12 critical dimensions, across sites, was 92%, ranging from 85%-96%. Across sites, all dimensions were implemented at above 83%, with 8 out of 12 implemented above 90%.
Wang, Birch (1984a)	1 school	Not reported	Not reported	Elementary	Not reported	Not reported	Special education students were mainstreamed full-time.
Wang, Birch (1984b) ¹	156 classrooms in 10 districts	Replicate	Varied	Elementary	Varied	Varied	Out of 138 teachers, 39.9% had high (at 85% or above on at least 11 critical dimensions), 56.5% had average (at 85% or above on at least 6 critical dimensions), and 3.6% had low implementation.
Wang, Gennari, Waxman (1985) ²	252 classrooms	Not Reported	Varied	Elementary	Varied	Varied	Overall averages studying a year of implementation, across critical dimensions, were 77% to 88% on the 1 st visit (fall), 88% to 94% on the 2 nd visit (winter), and 91% to 97% on the 3 rd visit (spring).
Wang et al. (1984) ³	10 districts	Replicate	Varied	Elementary	Varied	Varied	Same as Wang (1983).

(continued)

¹ Although not explicitly stated, this study may report on the same classrooms as Wang (1983).

² Summarized data from four other studies, two of which are also reviewed here, and the others are replications.

³ This study reports on the same classrooms as Wang (1983).

Summary of Implementation for Community for Learning (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Wang, Oates, WeisheW (1995)	3 schools	Replicate	1-2 years	Mostly elementary, but 1 middle school	Urban	High poverty level; 1 school primarily African-American, the other 2 primarily Hispanic	School 1—Parent involvement initiatives viewed as highly successful; instituted Saturday planning meetings; staff development/planning sessions are organized schoolwide by grade or implementation needs. School 2—During first year of implementation, 15 minutes added to the beginning and end of each day to allow for early dismissal and staff planning time; 7 parents hired as parent scholars; monthly health visits from a local medical facility. School 3 (middle school)—School divided into "houses." All houses participate in weekly school planning and management meetings; comprehensive health clinic established; biweekly parent workshops; on-site graduate-level course for teachers. CFL students had significantly higher perceptions of feedback, aspirations for self, self-concept, task orientation, rules clarity, satisfaction, perceptions of teacher aspirations for students, involvement, and affiliation. CFL schools achieved a multicultural, socially active, non-traditional, interdisciplinary instructional environment.

(continued)

Summary of Implementation for Community for Learning (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Wang, Peverly, Randolph (1984)	26 classrooms in 5 schools	Replicate	1 year	Not reported	Urban	Varied	By spring, all sites had an average implementation score across dimensions of at least 94%. Variables significantly correlated with level of CFL implementation include: teacher initiation of interactions (.08); greater amount of instructional interactions and fewer management interactions (.16 and -.20); more prescriptive activities and fewer exploratory activities (.36 and -.21); more whole group and less individual instruction (.20 and -.22); more self-initiated and less assigned work (.62 and -.62); and less time waiting for the teacher (-.13).
Wang, Walberg (1983) ⁴	138 teachers in 10 districts	Replicate	Varied	Elementary	Varied	Varied	Dimensions most consistently implemented included: record keeping, prescribing, diagnostic testing, and managing aides. Dimensions with some variation included: arranging space and facilities, establishing and communicating rules and procedures, monitoring and diagnosing, instructing, and motivating. Dimensions with wide variation included: creating and maintaining instructional materials, interactive teaching, and developing student self-responsibility.

⁴ Although not explicitly stated, this study may report on the same classrooms as Wang (1983)

Summary of Implementation for Co-NECT

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Bodilly, Keltner, Purnell, Reichardt, Schuyler (1998)	6	Replicate	2 years	na	Urban	na	In the second year of implementation, one school was planning, two schools were piloting, and three schools were implementing Co-NECT.
Bodilly, Purnell, Ramsey, Keith (1996)	2	Original	2 years	K-8	Urban	80-98% free lunch	Some progress made on all components. Well implemented: project-based instruction, coordination with standards, student assignment to groups (sometimes multi-age groups), and professional development. Inconsistently implemented: curriculum change, performance-based assessment, and community involvement (not a key component).
Bodilly, Purnell, Ramsey, Smith (1995) ¹	2	Original	Planning phase	K-8	Urban	80-98% free lunch	Co-NECT characteristics that contribute to good implementation: focused on few elements, targeted curriculum and instruction early, involved few collaborators, design team developed models. Co-NECT characteristics that slowed implementation: materials developed by schools, limited reform experience for developers.
Co-NECT (1998a)	1	Replicate	3 years	Elementary	Urban	100% African-American; 80% free/reduced lunch	Co-NECT was well implemented after three years. The school was organized into clusters; teachers spent two hours per week in common planning time, organizing projects and examining students' work.
Co-NECT (1998b)	1	Replicate	2 years	9-12	Urban	92% African-American; 42% free/reduced lunch	Two years into the program, students were grouped into multi-age groups; teachers were using projects; 100% of graduating seniors went to college. Major obstacles to implementation: 1) teachers found it difficult to reorganize the curriculum into projects and to use technology to support the projects; 2) teachers had trouble incorporating new academic standards into their teaching; 3) school ran into external resistance to its new curriculum initiatives and multi-age grouping.

(continued)

¹ This study examines the same Co-NECT schools as Bodilly, Purnell, Ramsey, and Keith (1996).

Summary of Implementation for Co-NECT (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
New England Association of Schools and Colleges (1997)	1	Original	5	Pre K-12	Urban	44% minority	Some faculty were concerned that the project-based approach does not allow them to cover the breadth of material found in traditional curricula. The school had heterogeneous, multi-age levels, organized into two clusters. Cluster teachers had common planning time several times per week. The curriculum was project-based; older students studied thematically integrated content. Curriculum was aligned with state and local standards. Teachers used a variety of instructional techniques; students had access to computers. The design team was established. Parents were involved and informed. The developer provided ongoing support throughout the implementation process.
Ross, Troutman, Horgan, Maxwell, Laitinen, Lowther (1997)	6	Replicate	1 year	Elementary	Urban	na	Well implemented: project-based instruction, student portfolios, teacher teams, Critical Friends, use of technology, parent/ community involvement, administrative support. Poorly implemented: multi-age grouping in some schools only partially implemented; insufficient technology, staff not prepared for broad changes.

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Summary of Implementation for Core Knowledge Schools

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
American Educator (1996a)	1	Replicate	3 years	Elementary	na	Middle-class Caucasian	Initiative to adopt Core Knowledge came from parents. School opened with 125 students in K-4; two years later it had 408 in K-6; one year later there was a waiting list of 200 students. Instructional style varied from class to class, but teachers were covering the same content.
American Educator (1996b)	1	Replicate	4 years	Elementary	Urban	Majority Hispanic; 96% free lunch; 28% LEP	School transformed from one with low achievement, behavioral problems, and low parent participation to one where students were achieving at grade level, were actively engaged, and parents were involved.
Stringfield, Datnow, Nunnery, Ross (1996)	6	Replicate	1 year	Elementary	Urban		Factors facilitating successful early implementation: 1) extra funding for start-up; 2) common planning time; 3) parent and community support; 4) site-based management; 5) district support; 6) staff interested in teaching CK; 7) team teaching; 8) shared lessons and experience with teachers at other CK schools; 9) assistance in finding materials; and 10) local adaptations.
Stringfield, McHugh (1996)	5	Replicate	1 year	Elementary	Urban	na	Developing units in teacher teams was less burdensome and more professionally rewarding than developing units as individual teachers. Classes increased emphasis on specifics of history, geography, and literature, and used classroom exhibitions consistent with the approach.
Stringfield, McHugh (1998)	5	Replicate	3 years	Elementary	Urban	na	Two were on their way to institutionalizing CK; 1 had signs of decreased implementation; 2 faced challenges that threatened ability to integrate CK. First-year challenges: finding time to develop CK curriculum, lack of age-appropriate resources, difficulty teaching all of CK content because of conflicts with existing district requirements. Second year is easier, but still has challenges: training new non-CK-trained teachers; shortage of time for individual and team planning; shortage of money to purchase new (or replace worn) materials.

Summary of Implementation for Different Ways of Knowing

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Catterall (1995)	4 schools	na	na	Elementary	Urban	90% minority	In year 3 of the study, teachers used more interactive classroom discussion, integration of the arts, and calling on students' prior knowledge than they had in year 1. They also spent more time on literacy-related activities.
Catterall, Dreyfus, DeJarnette (1995)	1 district, 4 schools	na	3 years	Elementary	Urban	66% economically disadvantaged; 50% Latino; 33% Asian immigrants	Principals were highly satisfied with DWoK training. Two-thirds of teachers felt that DWoK changed their attitudes about student learning. Teachers felt the approach had changed their strategies for instruction (92%) and assessment (57%). Teachers had positive reactions to the implementation team and study groups. Compared to control, DWoK school reported similar sense of intrinsic motivation, belief in personal effort, mastery orientation, engagement, and liking school.
Petrosko (1997); Hovda, Kyle (1997); Wang, Sogin (1996) ¹	21-277 schools	Primary	2 years	Elementary	na	na	Compared to a sample across the state, more DWoK teachers use student-centered instruction (e.g., a physical environment with flexible layout; a variety of materials; active engagement and student talk; integrated instruction, including flexible scheduling, lessons around themes, inquiry in science and social studies; varied instructional strategies; assessment that includes real-world tasks and student self evaluation; teamwork with other teachers; and involving parents). More teachers in the lower than upper grades used these practices. Teachers felt their instruction had changed since using DWoK (e.g., integrating instruction of different subjects; using more hands-on learning activities, art, and group activities; providing more writing opportunities). Most principals (95%) felt DWoK had had a positive influence on teaching. In one school only, teachers resisted using DWoK, according to principals.

¹ One three studies were conducted in conjunction.

Summary of Implementation for Direct Instruction

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Brent, DiObilda (1993)	2 Schools	Replicate	2+ years	Elementary	Urban	High-poverty; 45% African-American and 45% Hispanic	At first, teachers were afraid test scores would drop, so teachers were told they would not be required to meet district objectives and were provided with a DI coach. Students in DI classrooms were a mix between students receiving the program for the entire 2 years and students entering or leaving the program.
Gersten, Carnine, Williams (1982)	7 Schools, 21 Classrooms	Replicate	2 years	Elementary	Urban	High-poverty; 52% African-American and 43% Hispanic	Teachers were evaluated on level of implementation using the DISC. Results indicate that use of formats and use of signals are acquired first (within 2 months), but correction procedures, good pacing, and maintaining correct student responses take longer to develop (as long as 8 months). Development of skills was slower in paraprofessionals than in teachers.
Gersten, Darch, Gleason (1988)	Over 100 DI students (and similar # of controls) in 1 district	Replicate	3-4 years (2 cohorts)	Elementary	Urban	High-poverty (over 70% on AFDC); mostly African-American (approx. 80% of DI group)	Academic/cognitive objectives taught in 2-5-minute segments starting in kindergarten. Alignment between skills taught in kindergarten and 1 st grade. Initially, some of the kindergarten teachers resisted, but resistance faded as the school year progressed.
Gersten, Carnine, Zoref, Cronin (1986)	7 schools, 21 classrooms ¹	Replicate	2 years	Elementary	Urban	High-poverty; 52% African-American and 43% Hispanic	Teachers were asked to implement DI with only 2 days warning (and 2 days training). "Change was massive." A number of teachers had major initial concerns and initial resistance. However, interviews during the 2 nd year showed a substantial improvement. The majority of teachers either embraced the program or, though they didn't agree with some aspects (most notably, the scripted, mechanical nature of DI), felt that the program was needed in the school and thought the program was beneficial.

(continued)

¹ Same sample as Gersten, Carnine, and Williams (1982).

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Summary of Implementation for Direct Instruction (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Meyer (1984)	12 classrooms	Replicate	14 years	Elementary	Urban	High-poverty; 99.9% minority, mixed African-American and Hispanic	The school attributed results to the project manager, the DISTAR curriculum, increased time allocated to basic skills, monitoring of student progress, and teacher training.
Meyer, Gersten, Gutkin (1983)	12 classrooms ²	Replicate	14 years	Elementary	Urban	High-poverty; 99.9% minority, mixed African-American and Hispanic	Central to the success was the relationship of school staff to the project manager. Also, "parent support has kept the program going" despite a high teacher turnover rate and budget cuts.
Tarver, Jung (1995)	1 classroom	Replicate	1 year	Elementary	Not provided	Not provided	During the 1 st half of the year, teacher-directed instruction was exclusively whole-group, but in January, different grouping patterns were tried. Grouping varied somewhat between low performers and high performers with low performers receiving more Direct Instruction.
Varela-Russo et al. (1997)	29 schools	Replicate	Varied 1-3 years	Elementary	Urban	Not provided	80% buy-in vote required to be involved in DI. Program focused on schools with students having the greatest need.
Wellington (1994)	8 schools in 1 district	Replicate	1 year	Elementary	Suburban	Varied SES and ethnicity (exact percentages not specified)	Teachers volunteered to use DI and attended one-day workshop before implementation. Even with volunteering, however, level of acceptance of DI varied. Some were not comfortable with scripted format and different use of manipulatives.

² Same sample as Meyer (1984).

Summary of Implementation for Expeditionary Learning Outward Bound

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Academy for Educational Development (1995)	10	Original	2 years	K-12	Urban	19% minority; 46% free lunch; 10% special ed.	Greatest changes in teaching came from collaborating with other teachers, thinking up front about content and skill outcomes, developing clear criteria for student assessment, having students do multiple drafts of work, and using resources outside the classroom. Teachers not only led expeditions, but also felt more confident and comfortable doing so. Changes in assessment: most teachers used student portfolios, but little evidence that teachers or students reflected on student learning in portfolios, rather than on samples of work; inconsistent criteria for evaluation of portfolios. Changes in relationships: teachers felt enhanced professional standing; principals reconfigured own roles; parent involvement increased; community outreach increased. Changes in organization: flexibility in scheduling; greater planning time; multi-year teaching. Challenges and opportunities: new schools had difficulty implementing approach due to competing demands, also had high visibility in districts, high staff turnover, pressure to provide outcome evidence, and high parent/community involvement; transformed schools most able to implement approach; phased-in schools had most uneven implementation.
Bodilly, et al. (1998)	6	Replicate	2 years	na	Urban	na	In the second year of implementation, ELOB showed higher levels of implementation than all but one other design team studied; strong on whole-staff training and extensive professional development; weak on use of facilitators and team quality checks.

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Summary of Implementation for Expeditionary Learning Outward Bound (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Bodilly, Purnell, Ramsey, Keith (1996)	4	Original	2 years	K-12	Urban	26-38% free lunch	Some progress made on all components. Well implemented: introduction to staff, training all staff, teaming, time teachers work. Modestly implemented: instruction, curriculum, professional development. Inconsistently implemented: standards, assessments, student assignment, community involvement, staff and organization, participatory governance, concrete models, design team presence at site, strong facilitator at site.
Bodilly, Purnell, Ramsey, Smith (1995)	4	Original	Planning phase	K-12	Urban	26-38% free lunch	Characteristic that facilitated implementation: leadership. Characteristic that slowed implementation: new team members; creating structure and staff; lack of team experience in school reform.
McQuillan et al. (1994)	6	na	3 years	Various	na	na	Full implementation is possible after several years. In one site, learning expeditions and portfolio assessments were common; teachers taught and planned collaboratively; students worked cooperatively on projects; 45-minute class period eliminated; students grouped heterogeneously in reading and math. Parents and community served on committees and attended student exhibitions. Strong implementation is supported by clear understanding of the approach <i>before</i> adopting it; administrative support; sufficient professional development time. Successful sites were considered "alternative" before adopting the approach and had additional funding to support professional development. The service component was more difficult to implement; teachers didn't have enough time to do it.

(continued)

Summary of Implementation for Expeditionary Learning Outward Bound (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Ross, et al. (1997)	3	Replicate	1 year	Elementary, high school	Urban	na	Strengths: principals expressed enthusiasm for design and optimistic about prospects; principals happy with choice of ELOB; teachers enthusiastic about design and implementation, but less so than principals; teachers at one school saw increase in student motivation as result of ELOB; in 2 schools, project-based learning evident and students working in cooperative groups. Weaknesses: feeling of isolation among teachers; lack of assistance or direction; more planning time needed; need among teachers to see more evidence that approach increased student learning; ELOB training inadequate due to lack of direction from design team at the school during design and implementation, lack of help for teachers in integrating existing curriculum into expeditions, consensus among teachers that design team had little understanding of unique school cultures, vague instruction concerning design of expeditions, training at high school too directed towards elementary school level; concern among teachers that approach would not increase standardized test scores inhibited teacher willingness to implement design; concern among teachers that ELOB was just a fad inhibited teacher willingness to implement design; majority of classroom teaching based on traditional forms, not ELOB principles, curriculum not well integrated; self-motivated and self-paced education rare; learning expeditions infrequently seen.

Summary of Implementation for Foxfire Fund

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Baldassari (1996)	Schools in 2 districts	Replicate	Fall following Level One course attendance	Pre-K-12	Rural	One district: 30% minority Second district: 90% Caucasian	Of 12 teachers studied, 11 were using something from the Level One course in their classrooms. Only one seemed to reject the approach. Major difficulty: how to include activities that provided more student decision-making or choices. Supports for implementing the approach include: course follow-up, the local Foxfire network, the national Foxfire newsletter, superintendent support, principal's knowledge (and support) of Foxfire. Barriers to implementation include: having to conform to state mandates that were not aligned with Foxfire; having to use certain textbooks that didn't allow time to incorporate Foxfire approach; lack of other Foxfire teachers in school; open-school design that inhibited group work; teacher evaluation systems that rewarded teachers for keeping students on task, which was at odds with allowing students to make decisions.
Baldassari (1998)	7 teachers	Replicate	Various	K-12	Various	Various	Three stages of implementation: Years 1-2: get started, focus on barriers in 1996 study; Years 3-4: projects that provide student choice, balance use of core practices with school demands; Years 5-10: integrate core practices and mandated curriculum, address barriers. Teachers in different schools reported support and barriers to implementing Foxfire. Supports include: administrative support; districtwide commitment to "learner-centered" classrooms; flexible district curriculum; other Foxfire teachers in school. Barriers include: insufficient time; district policies that limit number of field trips; lack of autonomy in the classroom due to state/local mandates; resistance toward student empowerment.
Baldassari (1998)	6 teachers	Replicate	2 years	K-12	Various	One district: 100% minority	Second year of longitudinal study. Teachers report increased use of core practices and growing expertise.

Summary of Implementation for High Schools That Work

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
SREB (1996)	36	Original, replicate	Up to 5 years	High school	Rural, small town	na	Strategies that help high schools integrate academics and vocational studies; required major (i.e., career or vocational); student-centered instructional strategies (e.g., writing focus, applied work, interdisciplinary projects); academic support (remedial courses, tutoring, summer school); teachers involved in managing school (e.g., decisions about hiring, budget, curriculum); schools link with businesses (e.g., job shadowing, interning and mentoring, community recognition, technology partnership, financial support); data used for school and student improvement; district office leadership (e.g., provide release time, make connections among staff, parents, community); and connections with middle schools and community colleges.
Bradby, Teitelbaum (1998)	10 case studies, 92 analyses of long. data	Original and replicate	Varied	High school	Varied	Varied	Practices that some high-performing schools reported were effective included: requiring all students to complete challenging courses; providing students with academic and career guidance counseling; designating focused staff professional development activities; gaining support from the community; developing a network of student academic support services; and working together toward a common goal. There is little evidence, however, that schools are "successfully integrating academic and vocational education on a widespread basis."

(continued)

Summary of Implementation for High Schools That Work (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
SREB (1997a)	1	Replicate	4	High school	Rural	"Working class" (40% eligible for free/reduced lunch)	Opened with new building in 1992; joined HSTW in 1993. Formed decision-making council, doubled staff development, more "hands-on" teaching, "authentic assessment," adopted SREB curriculum, raised number of credits required to graduate, required senior project, introduced block scheduling, increased guidance services, and established after-school and extended time programs such as Upward Bound. Challenges included teachers doubting students could handle content, and initial problems with students not passing higher mathematics courses.
SREB (1997b)	1	Original	7	High school	Rural	Mid-SES; 23% Minority	Started with declining enrollment, students scoring poorly on standardized tests, etc. First step of restructuring created advisory committee to look at problems. After implementing HSTW, number of credits and types of credits required to graduate exceed SREB's recommended curriculum; 15 career majors offered; block scheduling and common planning time were instituted; many students are completing senior exhibitions of mastery; there is "techademic coaching"; a techademic skills class was instituted, more students are doing apprenticeships with local businesses; and a beefed up guidance system is used. Challenges to change included garnering additional funding and overcoming student resistance to higher standards.

(continued)

Summary of Implementation for High Schools That Work (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
SREB (1997c)	1	Original	7	High school	Rural	"Low to middle SES" (15% eligible for free/reduced lunch)	Reform started with the establishment of a needs assessment committee of business and education people. School run by Curriculum Development and Staff Development teams. School instituted increased staff development, common planning time, a school improvement team composed of persons in the community to give input, structuring educational program around career clusters, using "gold seals," working with area career center, using "job shadowing" and other techniques to tie school to work, block scheduling, and a strengthened guidance program. Some opposition at first to eliminating "general" courses, but most are on board now. State supports the program.
SREB (1997d)	1	Original	7	High school	Rural	73% eligible for free/reduced lunch; 55% African-American, 25% Native American, 20% Caucasian	Before HSTW, problems at the school included high dropout, discipline problems, complaints from employers and colleges that students were unprepared, low performance and low-level courses, and high teacher turnover. School raised course levels, created programs for students not succeeding, converted to two-semester school year, adopted block scheduling, strengthened guidance services, increased staff development, planned joint projects with colleges and universities, conducted teacher exchange program, and instituted team teaching. One barrier to implementation was teacher desire to work independently rather than collaborating with other teachers.

(continued)

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Summary of Implementation for High Schools That Work (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
SREB (1998)	1	Original	7	High school	Rural	60% eligible for free/reduced lunch; 25% minority	Before HSTW, concern about low performance, discipline problems, poor facilities, and large number of low-level courses. Raised graduation standards, required students to identify major, strengthened guidance services (including instituting teacher advisors), updated vocational curriculum and equipment, created alternative school and extended-time programs for students needing help, increased staff development, expanded use of technology, developed School Improvement Council, and instituted block scheduling. Lessons learned include that community and parent support is critical, reform takes time and hard work, constant training is necessary, and school staff need stronger guidance.

Summary of Implementation for High/Scope K-3 Model

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Hohmann (1994)	1	Replicate	2 years	K-3	Small town (pop. 7,000) not far from Ypsilanti	Varied	All elements were in place and functioning. Pilot classrooms had a large amount of technology (i.e., 4 computers per classroom).
Schweinhart, Wallgren (1993)	5	Replicate	3 years	K-3	Varied	Mixed ethnicity, poor	Classrooms had teachers and aides, and 3-4 computers per classroom. Extended services (e.g., access to health and social services, home visits) were provided.

Summary of Implementation for League of Professional Schools

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Allen, Glickman, Hensley (1998)	na	Original and replicate	3 years > 3 years	na	na	na	Three years after joining the League: 75% of schools had clearly stated decision-making processes that provided all interested teachers with input on decisions; 50% focused some of their action research on student achievement (only 15% were acting based on the research); and 50% focused at least some attention directly on learning. High-implementing schools have: 1) people who strive to learn from others; 2) an atmosphere where all staff are viewed as important and are included in decision making; and 3) structures that allow time to work on school improvement.
Allen, Glickman (in press)	na	Replicate	na	na	na	na	Schools benefited from giving staff sufficient time to ask questions about the League before voting. Setting a vision and building trust are essential. The principal's leadership is critical to success.
Calhoun, Glickman (1993)	60	Replicate	1, 2, 3 years	Elementary, middle	Rural, urban, suburban (Georgia)	na	More schools see need for action research. Only one-fourth of schools systematically assess student learning to inform school decisions. Some schools conduct schoolwide action research. Most schools need structure and process for action research, need to identify internal action research coordinators, and need release time or reallocated responsibilities to conduct action research.
Glickman, Allen, Lunsford (1992)	26	Replicate	16 sites: 2 years 10 sites: 1 year	Elementary, middle, high school	Rural, urban, suburban (Georgia)	na	Shared governance: 81% of 2-year schools strongly implemented. 0% of 1-year schools strongly implemented. Instructional focus: 19% of 2-year schools strongly implemented. 0% of 1-year schools strongly implemented. Action research: 13% of 2-year schools strongly implemented. 10% of 1-year schools strongly implemented.
Glickman (undated)	1	Original	6 years	High	Rural	na	Reported sense of empowerment among staff and large number of activities undertaken; school executive board went to state to get permission to pilot an alternative school. "Not perfect," but staff report overall satisfaction with democratic process.

(continued)

Summary of Implementation for League of Professional Schools (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Hawkins (1996)	43	Replicate	na	29 elementary, 7 middle, 7 high school	na	na	Higher sense of efficacy among elementary school teachers than upper-grade teachers. A low but significant correlation between length of time school has been in League and some but not all indicators of teacher efficacy.

Summary of Implementation for Modern Red Schoolhouse

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Bodilly, et al. (1998)	7	Replicate	2 years	na	Urban	na	Relatively low levels of implementation were attributed to the facts that MRSH did not have its own staff on-site and to inadequate marketing of the design to the district. Results may be due to small sample sizes.
Bodilly, Purnell, Ramsey, Keith (1996)	4	Original	2 years	2 elementary, 1 middle, 1 high school	3 small city, 1 urban	8-60% free lunch	Recommended letting changes related to school leadership autonomy wait until later. Difficult to implement: community involvement and staffing. Well implemented: instruction, curriculum, assessment, and school governance.
Bodilly, Purnell, Ramsey, Smith (1995) ¹	4	Original	Planning phase	2 elementary, 1 middle, 1 high school	3 small city, 1 urban	8-60% free lunch	Implementation was slow for first sites. Later sites were able to use the first sites as models. MRSH is a complex design (with 9 elements and 2 partners), and this appeared to slow implementation.
Heady, Kilgore (1996)	9	Original	1 and 2 years	6 elementary, 2 middle, 1 high school	Urban, suburban, small town	na	Schools reported an increase in student engagement and higher scores on state tests. Urban schools also reported improved behavior and attendance. Most challenging was the acquisition of computer equipment and software and autonomy.
Ross, Troutman, Horgan, Maxwell, Laitinen, Lowther (1997)	4	Replicate	1 year	1 elementary 2 middle, 1 high school	Urban	na	Front-end help from MRSH trainers contributed to successful implementation. Both the cost of the design and the requirements for planning were viewed as barriers to implementation.

¹ This study examines the same Modern Red Schoolhouse schools as Bodilly, Purnell, Ramsey, and Keith (1996).

Summary of Implementation for Onward to Excellence

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Blum, Landis (1998)	246	Replicate	Varied; between 1 and 14 years	Elementary, middle, and high school	Majority rural or small town	Ethnic mix; 63% median poverty rate	To overcome scaling-up barriers: establish multiple levels of support across the full education system (policy makers, program developers, foundations, and local educators); develop local trainers familiar with the school's context who have ownership in the process; set a common focus on student learning to provide common direction for the school; and, develop the internal and external support and capacity to push the program ahead at the local level and sustain the required energy and commitment.
Blum, Yap, Butler (1991)	163; 10 high-implementing	Replicate	Varied	Elementary, middle, and high school	Varied, but most rural	Varied	Almost all goals relate to student performance. In high-implementing schools, goals were clear. Almost all schools showed progress toward goals; however, perceived greater than actual progress. Nearly all high-performing schools keep performance data that aligned with their goals. Good alignment between improvement goals and changed practices in high-performing schools. OTE resulted in more collegiality, staff input in decision-making, increased staff involvement, greater commitment, and increased awareness. Of 36 schools surveyed, 6 had discontinued OTE as a result of changed priorities, departure of the principal or lost momentum.
Kushman, Yap (1997)	33	Replicate	2 years after the training finished	na	na	na	Factors that help OTE success: strong leadership; organizational and community support; setting challenging, obtainable, and measurable goals; connecting to research-based practices (links to universities); and, smaller school size. Factors that hinder OTE success: insufficient staff time, state and district curricular mandates that force schools to change goals without going through the OTE process, failure to reach out to parents and other stakeholders, and weak communication links between the SLT and the entire staff.

Summary of Implementation for Paideia

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Center for Educational Research and Evaluation (1998)	1 District, up to 94 schools	Original	6 years	K-12	Urban	na	Schools with a history of successful academic achievement tended to show higher levels of implementation. Overall the process of implementation was slow and uneven and implementation varied greatly across sites.
Chesser, Gellatly, Hale (1997)	1 school	Replicate	3 years	Middle	Urban	From 45% minority to over 70% minority over the three years	The initial and most comprehensive training was on seminar facilitation. Faculty experimented with some aspects of the program, but the seminar piece was consistent over the three years.
Howard (1992)	2 schools	Replicate	3 weeks of seminars	Middle	Rural	Predominately white, middle-class	Students spent significantly less time talking in lessons than in seminars; reader-related and evaluation questions were asked more often in seminars than in lessons.
Stringfield, et al. (1997)	4	Replicate	2 sites since 1984; 1 site since 1989; 1 site since 1986	K-12	na	na	Only 1 in 4 sites full implemented the approach. Scheduling and administrative support were critical for full implementation.
Wheelcock (1994)	5	Replicate	4 sites for 2-3 years, and 1 site for 8-9 years	1 school (originally grades 5-8, later expanded to grades K-11) grades K-6; one elementary school, one middle school, and one high school	Urban	na	Parental support and commitment were critical factors for the schools' adoption of the Paideia approach. Another factor was the schools' commitment to staff development; the school district's annual budget for professional development increased from \$15,000 to almost \$750,000 in approximately five years (from 1989 to 1994).

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Summary of Implementation for Roots and Wings

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Bodilly, et al. (1998)	6	Replicate	2 years	Elementary	Urban	na	Roots and Wings had higher levels of implementation than most of the other models studied. Items positively affecting implementation include a stable, capable team; effective communication; emphasis on core elements; and strong support for schools.
Bodilly, Purnell, Ramsay, Keith (1996)	2	Original	2 years	Elementary	Rural	29% -< 42% free lunch; primarily Caucasian	Well implemented: instruction and curriculum, standards, student assignment, community involvement, professional development, and staffing and organization.
Bodilly, Purnell, Ramsey, Smith (1996)	2	Original	Planning phase	Elementary	Rural	29% - 42% free lunch; mostly Caucasian	As this was a baseline observation, not much information was available. However, on preliminary analysis, Roots and Wings seemed easier to implement than some of the other models.
Ross, Troutman, Horgan, Maxwell, Laitinen, Lowther (1997)	8	Replicate	1 year	Elementary	Urban	na	Implementation was rated as strong in half of the schools and weak in the other half. Implementation was stronger in lower grades than upper grades. Frequent assessments, longer reading classes, smaller reading class sizes, and some cross-grade regroupings were seen. Teachers had particular trouble implementing cooperative learning in the upper grades.
Slavin, Madden, Dolan, Wasik (1994)	4	Original	3 years	Elementary	Rural	Low/middle SES; primarily Caucasian	Students were very involved in the learning activities.

Summary of Implementation for School Development Program

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Comer (1988)	2	Original	20 years	Elementary	Urban	High-poverty; 70% receiving AFDC; 90% African-American	Teams were not effective in the beginning because they weren't accepted. After 7 years, behavioral problems declined and relationships between parents and staff improved. After 12 years, SDP was fully integrated into the school's day-to-day practices.
Comer, et al. (1992)	11	Replicate	Varied	Elementary	Urban	98% African-American; high poverty	Well functioning SPMT contributes to positive school climate, which influences student self-concepts and academic achievements. There was high variation in MHT implementation. Gap existed between parent and teacher priorities for students.
Joyner, Haynes, Comer (1994)	2	Replicate	1 year	Middle	Urban	School A: 53% African-American; 45% Hispanic; 92% below poverty level; 16% bilingual School B: 99% African-American; 80% below poverty level	At the end of the first phase, both schools have the model in place. School A has a working relationship between the SPMT and the MHT; School B's SPMT is not as well implemented, but the MHT is excellent. Conditions required for successful implementation include: convincing the principal, staff and parents that SDP will achieve its state outcomes; developing within the staff an understanding of the model and its components; and, gaining a commitment from the principal to lead the process in a collaborative and no-fault manner.
Haynes, Comer (1990)	4	na	na	Elementary	na	43-44% African-American; 43-44% receiving AFDC	Students in SDP schools had a significantly higher self-concept than students in control schools in these areas: behavior, intellect, appearance, popularity, anxiety, and happiness.

(continued)

Summary of Implementation for School Development Program (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Haynes, Comer (1995)	na	Replicate	Varied	Elementary	Urban	Varied	4 stages of implementation. <i>Orientation</i> —schools learn the mission and goals and collect baseline data for research. <i>Transitional</i> —schools establish and refine the 9 elements, conduct staff development, write comprehensive school plan. <i>Operational</i> —the elements are in place, staff development continues, plan refined based on data. <i>Institutionalization</i> —elements infused throughout the school. The stages are not linear—take 5 to 7 years to complete. Key factors leading to successful implementation: principal's commitment and leadership, high-quality facilitators, and sufficient resources (human, capital, time, and effort).
Joyner (1990)	6	na	na	Elementary	Urban	80% free lunch	Students in SDP schools had significantly higher self-concept, cooperation, industry, dependability, and social control compared to students in control schools.
Millsap, et al. (1997)	2 districts	Replicate	3-4 years	4 elementary, 5 unknown	Urban	High poverty	In one district, SDP was implemented in 4 elementary schools. One was closed (physical plant); the other 3 are still implementing the program. The hardest pieces to implement are encouraging parents to become active participants in governance (little success), and ongoing self-assessment and modification. In the other districts, of the 5 SDP schools, only one has continued with the program. Reasons given for discontinuing the program include budget cuts, turnover in principals, and lack of district support.

(continued)

Summary of Implementation for School Development Program (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Negron (1996)	1	Replicate	6 years	Elementary	Urban	85% bilingual; 100% free lunch	Over 2 years, as SPMT and SSST became more functional, the principal's role declined to one of support, which gave more time to seek funding and resources, and support special programs. Worked with local hospital and foundation to open school-based medical and dental clinics.
Nobilit, et al. (1997)	5	Replicate	At least 3 years	3 elementary, 1 middle, 1 high school	Urban	Varied	Barriers to implementation: a school with majority Latino students found that some parents weren't involved because their English wasn't strong enough to follow meetings; one school had an "in-group" and an "out-group" of teachers; it was hard to get the "out-group" to participate in the teams.
Stringfield, et al. (1997)	5	Replicate	na	Elementary	Urban (2 schools)	Over 75% free lunch; 95-100% African-American (2 schools)	Implementation is uneven. Principals' and teachers' support, including shared responsibility, can affect implementation.
Turnbull, Fiester, Wodatch (1997)	5	Replicate	3 years	3 elementary, 2 middle	Urban	High poverty	Districtwide implementation is important because: the process is universal, so sooner or later, every-one will "get it"; the process has a more long-term nature; it makes for less competition among schools because everyone in the district is involved; it creates opportunity for networking among teachers; and helps build a wider parent network.

Summary of Implementation for Success for All

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Jones, Gottfredson, Gottfredson (1997)	2	Replicate	3 years	Elementary	Urban	Low SES; mostly African-American	Many problems with implementation. Researchers wanted to see how SFA would work in a school in which it was "tougher to implement." Many of the components were missing; Hurricane Hugo hit and damaged schools in the middle of the study. SFA students had lower retention in grade 2.
Madden, et al. (1993)	5	Original	Varied by school (2-4)	Elementary	Urban	Low SES; mostly African-American	Schools varied widely in implementation depending on finances. Distinction made in the article among "Cadillac" and "Chevy" schools (some "go-cart" schools added later). Differences in number and type of tutors as well as extent of parent support services.
Ross, Nunnery, Smith (1996)	2	Replicate	1 year	Elementary	Urban	Low SES; mixed ethnicity (e.g., 6% and 24% LEP students in the two schools)	Implementation not clear.
Ross, Smith, Casey, Slavin (1995)	3	Replicate	1-2 years	Elementary	Rural	Low/mid SES (around 50% free/reduced lunch); primarily Caucasian, but small Hispanic population	Fidelity of implementation was high. The schools contained all the components of SFA; principals and facilitators already had a year of SFA experience; and the SFA schools received a positive implementation rating from Hopkins. Although there were some slight differences in school climate in the two SFA schools, no program differences were found in teacher attitudes or school climate.
Ross, Smith, Slavin, Madden (1997)	Unclear	Varied	Varied	Elementary	Varied	Demographics varied from site to site; details not given.	Varied/unclear implementation. Level of quality of implementation related to strength of program impacts. Teachers rated the Roots and Wings reading programs highly than control schools. Individual tutoring was rated slightly lower, but still positive. The Building Advisory Committee, the Family Support Team, and eight-week assessments were rated relatively low (at least half of teachers felt they were insufficient).

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Summary of Implementation for Success for All (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Slavin, et al. (1994)	8	Original and replicate	Varied	Elementary	All but one school urban	For 6 schools, low-SES, primarily African-American; for 1 school, low-SES, Asian; for 1 school, unknown	Number of retentions tends to decrease with successful years of implementation of SFA. Varied implementation. Increasing effects with successive years of implementation. A lower number of 3rd- and 4th-grade students in SFA schools (who had been in the schools since 1st grade) were assigned to special education services than students in the control schools.
Slavin, Madden (1998)	5	Replicate	Varied	Elementary	Urban	Low SES, LEP students; 1 school primarily Asian; 3 primarily Hispanic; 1 varied ESL	Some of the schools used the Spanish version of the curriculum. Most components were implemented.
Slavin, Madden, Dolan, Wasik (1994)	1	Original	1	Elementary	Urban	Low-SES; primarily African-American	All program components implemented. First site. Mean effect size increased with years of implementation.
Slavin, et al. (1990)	23	Original and replicate	Varied	Elementary	Mostly urban	Mostly low-SES (17 schools had over 80% free/reduced, two had over 70%, 2 had over 50%, and 2 under 50%). Mixed ethnicity (13 schools primarily African-American, 3 mixed African-American and Caucasian, 5 various levels of ESL students, and 1 primarily Caucasian).	Varied implementation.

(continued)

Summary of Implementation for Success for All (Continued)

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Smith, Ross, Casey (1996)	9	Replicate	2-3	Elementary	Varied	Varied SES; varied ethnicity (4 districts: 1 primarily African-American, 1 primarily Caucasian, and 2 mixed ethnicity)	Varied implementation. All components implemented, though some had some problems.
Venezky (in press)	5	Original	Varied, but advanced	Elementary	Urban	Low SES: primarily African-American	Varied implementation from "Chevy" to "Cadillac" models described earlier.

Summary of Implementation for Talent Development High School

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
McPartland, Balfanz, Jordan, Legters (1998)	1	Original	3 years	High school	Urban	na	First year focused on school structure; 2 nd year focused on instructional changes. In the 1 st year, implemented smaller theme "academies" within school, Twilight school, Saturday school and 4-period days. Challenges to implementation: 10/110 teachers resisted; transferred to other schools. In the 2 nd and 3 rd years, implemented new curriculum and instructional strategies. 10.1% higher attendance in a Talent Development school vs. 3.2% lower attendance in the district.

Summary of Implementation for Urban Learning Centers

Source	Number of Sites Studied	Type	Number of Years in Operation	School Grade Level	School Urbanicity	Student Demographics	Key Findings
Aschbacher, Rector (1995)	2 schools	Original	1 year 2 years	K-10, PreK-10	Urban	95% free lunch, 35-59% LEP	Expanded the grades served. First year, discussed following components, by second year, began implementing components: interdisciplinary instruction, block scheduling, focus on outcomes and portfolio assessment, use of diverse instructional strategies (e.g., hands-on learning), school-based governance teams, family center, schoolwide referral process. Resolved implementation issues in first and second year. Major barriers: teacher resistance, too little planning and training time, communication among staff, school year, and daily schedule.
Aschbacher, Rector, Pascal (1996)	2 schools	Original	2 years 3 years	K-10, PreK-10	Urban	95% free lunch; 35-59% LEP	Expanded the grades served, although high school not always well integrated. Increase in team teaching, interdisciplinary instruction, multi-age grouping, alternative assessment, teacher involvement in governance; however, none of these components implemented across either school. Standards discussed, but not established. Major barriers: scheduling, funding, structured, professional development, lack of accountability.
LA PASS (1997)	1 school	Original	3 years	K-12	Urban	90% free lunch; 70% Hispanic; 30% African-American	Programs to help students enter college (run by other organizations) were well implemented. Tutoring programs were well implemented when funded, then disbanded. Family-support services, parent involvement components were well implemented.

APPENDIX F

SUMMARY OF FINDINGS ON COSTS

Costs for Sample of Sites Using Accelerated Schools

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate	25% coach	\$13,000-\$15,000 ¹						Costs decreased by four days of training
Site 1			\$5,000 for teacher training	Materials and personnel paid from the original operating budget			\$4,000 for teacher training	Material and personnel paid from the original operating budget
Site 2			\$2,000 for staff development	Materials and personnel paid from the original operating budget			\$3,000 for staff development; staff development has increased in cost every year for 8 years.	

¹ This estimate is for a "Basic Partnership Agreement," which includes, in the first year: training for coach, principal, and school staff member (excluding travel); training materials and three copies of *Accelerated Schools Resource Guide*; visit by project staff member; technical assistance by phone and e-mail; monthly networking opportunities; a year-end retreat; and a subscription to newsletters and an electronic network.

Costs for Sample of Sites Using America's Choice

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for K-8 school of 500	Design coach; literacy and community outreach coordinators (possibly Title I)	\$650 per class for Reference Exams; \$1,000 per literacy coordinator for supplies	Travel costs for staff development; release time for staff (20 days for literacy coordinator, 3 days for design coach, 1.5 days for community coordinator, 5 days for teacher conference)	\$65,000 ¹ tutoring expenses	Same as year 1			\$65,000 for two additional years
Developer's estimate for high school of 1,200	Design coach; school-to-career and community outreach coordinators (possibly Title I); teacher release time	\$650 per class for Reference Exams; \$1,000 per literacy coordinator for supplies	Travel costs for staff development	\$95,000	Same as year 1			\$95,000 for two additional years
Site 1	Design coach and community outreach coordinator (use people already employed by the district)		Staff release time and travel	\$65,000 fee to developer (includes all training and technical assistance)	Design coach and community outreach coordinator (use people already employed by the district); added literacy coordinator this past year		Staff release time and travel	\$65,000 fee to developer (includes all training and technical assistance)

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¹ Fee to developer, which includes: providing the design, up to seven days of technical assistance at the school each year, copies of *America's Choice Performance Standards* for each teacher, four weeks training for the literacy coordinator, training of the design coach, workshop materials for faculty professional development, periodic meetings of the Principal's Network, and registration to the annual America's Choice National Conference for five teachers.

Costs for Sample of Sites Using America's Choice (Continued)

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Site 2	On-site coordinator (use current district employee; no additional salary requirements)	School chooses not to purchase available materials		\$65,000 fee to developer	On-site coordinator (use current district employee; no additional salary requirements)	School chooses not to purchase available materials		\$65,000 fee to developer
Site 3	Designated liaison \$1,000	Does not pay NCEE for materials	\$5,000 per year for training	\$65,000 all on grant funding	\$1,000 a year for liaison	Does not pay NCEE for materials	\$5,000 per year for training	\$65,000 paid in grants

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Costs for Sample of Sites Using ATLAS Communities

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate ¹	Part-time pathway coordinator (for entire pathway)	Workbooks for 70% of staff at \$20/copy; supplementary materials	Release time for 30% of staff to attend 3-4 day institute; weekly teacher study group; release time; travel costs and release time for 3-day principal institute; support for leadership institutes	\$50,000 (includes half-time site developer; 9-12 technical support visits; visit from another ATLAS site; materials for training, planning, and evaluation; Web site, newsletter, registration for principal institute)	Same as year 1	Same as year 1	Same as year 1	Year 2: \$51,700 Year 3: \$53,330 (includes same support and materials as first year; increase due to cost-of-living increases)
Site 1 3 schools			\$500-1,000 per visit for school staff to attend retreats and visit schools	\$60,000			\$500-\$1,000 per visit for school staff to attend retreats and visit schools	Years 2-4: \$60,000 Year 5: \$20,000 (school began to do own professional development)
Site 2 5 schools				Estimates about \$50,000 a year in expenses; most of the money goes for extra time for teachers				\$50,000 consistent price for three years
Site 3 5 schools	\$200,000 for materials and joint planning activities				Gradual reduction of funding after first two years			

¹ Estimate is per school, assuming a "pathway" of three schools.

Costs for Sample of Sites Using Audrey Cohen College: Purpose-Centered Education

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate ¹	Staff resource specialist; district liaison	\$7,878	\$36,685 plus release time, travel, lodging, and meals for Audrey Cohen College staff	\$7,000 (one time district licensing fee)	Year 2-4 same as year 1	Year 2: \$6,325 Year 3: \$4,025 Year 4: Market price	Year 2: \$23,345 Year 3: \$22,425 Year 4: \$10,000	
Site 1 ²		\$7,000	\$30,000-\$40,000 plus release time, travel lodging, and meals for Audrey Cohen College staff	Licensing fee waived for original pilot sites; everything is paid				

¹ This estimate is for one school in a district. If two to four schools in a district join, the total cost for materials and staff development is \$40,563 in year one, \$27,270 in year two, and \$25,250 in year three. If five or more schools in a district join, the per-school cost is even lower. The one-time district licensing fee is only charged once, even if multiple schools within a district join.

² Developer was able to provide only one site for an interview in time for publication.

Costs for Sample of Sites Using Basic Schools Network

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate	\$12,000 per year above current operating cost. The figure mostly includes training and staff release time.				Same as year 1			
Site 1 Suburban, approximately 40% free lunch			\$10,000 grant used for staff release time, professional development, and visits to other sites		Similar to year 1			
Site 2 Urban			Also received start-up grant; four planning meetings/year + other professional development and training		Similar to year 1			
Site 3 Urban			Inservices, visit four times/year from mentor, conferences, summer institutes	Additional staff release time for planning			Costs similar to year 1, but after a number of years, school staff become mentors rather than having mentors from Basic Schools	Additional staff release time for planning
Site 4	No additional costs associated with becoming a Basic School				No additional costs associated with becoming a Basic School			

Costs for Sample of Sites Using Coalition of Essential Schools

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for a school of 500 students				No more than 10% of school budget without approach				Same as year 1
Site 1	No additional personnel; small school	\$4,000	\$3,000 a year	Small school; 2-3% of the school's budget	No additional personnel	\$4,000	\$3,000 a year	Small school; 2-3% of the school's budget
Site 2	Not affiliated with the Center. Did not spend any additional funds outside the operating budget.							
Site 3			\$15,000 a year includes attendance at 2 Fall Forums	10% of the school's budget			\$15,000 a year; a consistent cost	10% of the school's budget
Site 4	Additional release time and substitute time required	\$9,000	Option to send 1 or 2 people to fall conference; cost is \$2,000	10% of the school's budget	Additional release and substitute time required	\$8,000	\$2,000 plus cost of inservice days off for teachers	10% of the school's budget
Site 5	Works within existing operating budget	\$8,000-\$9,000 for books	\$2,000 for travel and staff development	Non-traditional program cost for less than 10%	Works within existing operating budget	\$8,000-\$9,000 for books	\$2,000 for travel and staff development	Non-traditional program cost for less than 10%

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Costs for Sample of Sites Using Community for Learning

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for a school of 500 students	Part-time district coordinator, full-time school facilitator		\$30,000 for training and technical assistance; teacher release time (estimated 7.5 days for 25 teachers)		District coordinator; school facilitator		\$15,000 and \$5,000 in year 2 and year 3 respectively for training and technical assistance	
Site 1	School facilitator already employed by the district		Less than \$30,000		School facilitator already employed by the district		Less than \$30,000	
Site 2	School facilitator already employed by the district	\$20,000	\$30,000 (includes consultant to train teachers)		School facilitator already employed by the district		\$15,000 and \$5,000 in year 2 and year 3 respectively (includes consultant)	
Site 3	District facilitator (cost shared among schools in the district)		\$30,000; 4 days release time for each teacher		District facilitator (cost shared among schools in the district)		\$25,000 and \$5,000 in year 2 and 3 respectively; 4 days release time for each teacher	

Costs for Sample of Sites Using Co-NECT

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for a school of 500 students		\$500,000 hardware and software	\$7,500 Critical Friends (travel and hotel); teacher release time (75 days); \$4,800 trainer (travel and expenses)	\$55,000 fee paid to the developer ¹		Hardware and software upgrades, maintenance, services	\$6,500-7,500 Critical Friends (travel and hotel); teacher release time (65 days); \$3,500 trainer (travel and expenses)	\$55,000 paid to the developer
Site 1		\$600,000 hardware and software		\$50,000 fee paid to the developer				\$15,000 fee
Site 2	\$30,000 part-time facilitator		\$2,500 travel, Critical Friends; \$480 substitutes (8 days)	\$55,000 fee	\$30,000 part-time facilitator		\$2,500 travel, Critical Friends; \$480 substitutes (8 days)	\$55,000 fee
Site 3	\$30,000 part-time facilitator		\$5,000 travel, Critical Friends	\$55,000 fee	\$30,000 part-time facilitator; technology coordinator		\$5,000 travel, Critical Friends	\$55,000 fee

¹ This fee covers the field representative's salary, access to the Co-NECT exchange, professional development, registration for three teachers at Co-NECT's national conference, and participation in the Critical Friends component.

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Costs for Sample of Sites Using Core Knowledge

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate		\$10,000 for classroom and library books, maps, etc.; \$25/teacher for <i>Core Knowledge Sequence</i> ; \$50/teacher materials fee (for all workshops)	\$500 schoolwide fee for overview course, \$3,375 for other workshops ¹ ; \$5,000 technical assistance; teacher release time (estimated 5 days for 25 teachers)	\$15 membership fee		Additional costs for classroom and library books		\$15 membership fee
Site 1				\$58,000 first 2 years for materials and staff development; \$1,500 for additional supplies	\$3,500 personnel	\$3,500 for materials		\$7,500 additional supplies
Site 2		\$6,000	\$2,000 for 2 teachers to conference			\$6,000	\$2,000 teacher training	
Site 3		Exceeded operating budget prior to implementation; paying for materials problematic	\$2,000 conference			Paying for materials a continuous problem	\$2,000 conference	
Site 4			Send teacher to national conference	\$65,000 for materials and staff development			Send teachers to national conference	

378 ¹ This estimate is based on 25 teachers attending one 1½-day workshop and one 3-day workshop. The Core Knowledge fees per workshop are: \$750/day for up to 25 teachers, \$1,000/day for 25-50 teachers, and \$1,250/day for more than 50 teachers.

Costs for Sample of Sites Using Different Ways of Knowing

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for a school of 500 students			Release time or stipend for professional development (7 days for 25 teachers); time for study groups and in-class coaching; additional leadership training; preservice from local college	\$35,000 fee; additional costs for curriculum planning time, independent evaluation (if desired), summer school support	Same as year 1			
Site 1 (25 teachers)		Curriculum modules (\$500 per module)	3 days initial training and 3 days ongoing training	\$35,000 (roughly \$1,250 per teacher for training)	Same as year 1			
Site 2			Release time for teachers; cost of substitutes (\$80 per day)	\$35,000	Same as year 1			

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Costs for Sample of Sites Using Different Ways of Knowing (Continued)

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Site 3 (20 teachers)				\$11,000 (discounted from \$16,000 because site hosts meetings for other schools); includes materials—model units and supporting materials, library books, audio and video tapes—plus 6-10 technical assistance site visits				Year 2: \$11,000 Year 3: less than \$11,000

Costs for Sample of Sites Using Direct Instruction

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for a school of 500 students and 25 teachers	Facilitator	\$62,500	\$65,000 for training and technical assistance; release time (estimated 9.5 days for 25 teachers)	Time to collect and send data to NIDI		\$62,500	Years 2-5: \$65,000/year for training and technical assistance; release time (estimated 4.5 days for 25 teachers)	Time to collect and send data to NIDI
Site 1 (20 teachers)			\$1,000-\$1,200 conference (20 teachers)		2 facilitators; master teacher		\$500-\$600 conference (10 teachers); \$1,000-\$1,200 out-of-state conference (2 teachers); \$1,500-\$2,000 technical assistance visits	
Site 2 (40 teachers)					Facilitator consultant, 10 days per year @ \$300-\$500/visit		\$7,000	\$40,000 (including materials)
Site 3	DI resource teacher		4 days of training (entire staff)	Close to \$120,000 (including materials)	DI resource teacher		4 days of training (entire staff)	\$45,000 (including materials)
Site 4		\$45,000	\$30,000 to developer (includes technical assistance)			Year 2: \$25,000 Year 3: \$35,000 (starting to use mathematics materials)	Year 2: \$25,000 (reduced consultation hours) Year 3: \$16,000 (consultation down again)	

Costs for Sample of Sites Using Expeditionary Learning Outward Bound

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate ¹			\$1,000-\$1,200 per faculty member (travel, stipends, etc.)	\$53,750 ²			\$1,000 per faculty member (travel, stipends, etc.)	Year 2: same as year 1 Year 3: 20% less than year 2 Year 4: 20% less than year 3 Year 5: 20% less than year 4
Site 1	Operating budget	Operating budget	\$7,000 a year for staff development	No additional cost	Operating budget	Operating budget	\$7,000 for staff development	No additional cost
Site 2				\$8,000 total				\$8,000 total First year expects 20% drop per year
Site 3	\$175,000 for 5 extra teachers; \$35,000 per teacher	Operating budget not a major expenditure	\$25,000 a year on staff development	Additional planning time	\$1,050,000 for 30 additional teachers at \$35,000 per teacher		\$20,000 down 20 percent	Has to budget additional planning time

¹ Costs will vary according to school size, district size, and location. Assumes faculty of 25 and 500 students in a district with three or four other schools participating.

² Includes all materials, at least 15 days per year of professional development for every teacher; all fees for one-fourth of faculty to attend ELOB courses, one-fourth to attend summits, and one-fourth to attend national conference and seminars (more can be sent at no additional cost if space allows); fees for principal and one member of leadership team to attend leadership conference. Also includes 30 days (20 at the school) of technical assistance. Each additional teacher is estimated at \$1,150/teacher.

Costs for Sample of Sites Using The Foxfire Fund

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate			\$50-600 for Taste of Foxfire presentations or workshops (average 9 hours, does not include travel); \$12,000 to \$14,000 for whole-school for Level One courses (estimated 51 hours)	\$40 for membership or \$20 for journal subscription			\$7,000-\$9,000 for whole school for Level Two courses; \$300 per teacher for summer seminars	\$40 for membership or \$20 for journal subscription
Site 1			\$100 per teacher (not schoolwide)				\$100 per teacher	
Site 2			\$12,000 total (schoolwide)					
Site 3			\$400 per teacher (not schoolwide)				\$400 per teacher	

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Costs for Sample of Sites Using High Schools That Work

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate			\$15,000-\$20,000 for other professional development (e.g., planning time, curriculum development, stipends)	\$25,000-\$35,000 (site development conference, staff and curriculum development, technical assistance, assessment package, team registration at conference, materials)			\$15,000-\$20,000 for other professional development (e.g., planning time, curriculum development, stipends)	\$25,000-\$35,000 (technical assistance visit and follow-up, staff and curriculum development, assessment package, team registration at conference, materials)
Site 1				\$33,000 for 3 years total; HSTW has not given site any money since the grant; sites have to apply to state and county when the money is gone				\$11,000 a year total; run with mostly state and local funds.
Site 2				\$25,000-\$35,000 total				\$25,000-\$35,000
Site 3				\$5,400 total			\$1,500 workshop (6 teachers); \$2,200 conference (principal and assistant principal)	\$5,400

Costs for Sample of Sites Using High/Scope K-3 Model

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for a school that contains 8 K-3 classrooms	\$4,967 estimated travel and subsistence cost for consultant	\$250 for workshop materials; \$1,333 curriculum guides and recordings for 8 classrooms	\$11,900 consulting fee for 5 site visits; \$600 registration fees for 6 staff to attend Registry Conference	Travel, release time, compensation, and other expenses for conferences and workshops	Similar to year 1			
Site 1 - BIA school	Computer tech	Various materials	Training for all staff 2-3 times/year	"It's costly, but it pays off"	Similar to year 1			
Site 2		Materials were not noted as a large cost	Training 2-3 times/year	Costs reflect estimate given to site by the developer	Similar to year 1			

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Costs for Sample of Sites Using League of Professional Schools

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate			36 person days, additional costs for travel and expenses	\$1,000 (membership fee) ¹			24 person days; additional costs for travel and expenses	\$1,000 (membership fee)
Site 1			\$4,000 (travel)	\$1,000 (membership fee)			\$4,000 (travel)	\$1,000 (membership fee)
Site 2			\$1,000 (travel)	\$1,000 (membership fee)			\$1,000 (travel)	\$1,000 (membership fee)
Site 3			\$1,500 (travel)	\$1,000 (membership fee)			\$1,500 (travel)	\$1,000 (membership fee)

¹ The fee covers a two-day fall conference, a one-day winter meeting, a one-day spring meeting, professional materials, a newsletter, access to the Information Retrieval System, unlimited telephone consultation, and a one-day visit to the school.

Costs for Sample of Sites Using Modern Red Schoolhouse

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for a school of 500 students		Costs for technology ranging from \$8,333 to \$100,000	Teacher release time (estimated 25 teachers for 5 days and groups of 8 teachers for 25 days)	\$60,000 to \$80,000 paid to developer ¹	Similar to year 1			
Site 1	Full-time curriculum coordinator	\$24,000 (3 schools)	Additional staff development < \$24,000		Full-time curriculum coordinator	\$72,000 (3 schools for 3 years)	Additional \$72,000 (3 schools for 3 years)	County school system in the first year of a 3-year grant
Site 2	No additional staff; paid for by grant	\$20,000 (2 schools for 3 years)	(10-15 teachers, \$100 a day); \$1,500 total for conference	\$70,000 for the whole grant (2 schools)	No additional staff	\$20,000 a year (2 schools for 3 years)	\$1,000 for 10 teachers to attend a 2-day conference	\$70,000 for 2 schools over 3 years
Site 3	No additional costs	\$5,000	\$25,000 for staff development	\$25,000	No additional costs	\$10,000	\$25,000 for staff development	\$25,000

¹ This fee varies as a function of the proximity of the school to Nashville, and includes the cost of trainers and consultants for 30 days of training or consultation.

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Costs for Sample of Sites Using Onward to Excellence

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate	.25 FTE facilitator		\$7,500 training, release time (13 days for 4-member leadership team, 4 days for 3 4-member study groups, 3 days for entire staff) ¹	Travel for OTE training to visit school (7 \$500 visits in the first year)	25% FTE facilitator		\$7,500 (training) 6-12 days release time	Travel for OTE trainer to visit school (2 visits in the second year)
Site 1			\$1,500 (teacher release time, expenses)	\$10,500			\$1,500 (teacher release time, expenses)	\$10,500
Site 2			\$700 (teacher release time), 7-10 times a year				\$700 (teacher release time), 7-10 times a year	
Site 3				Less than \$10,500				Less than \$10,500

¹ Schools that join in a cluster (up to six schools) can divide this total by the number of schools in the cluster. For example, a school in a cluster with five other schools would pay \$1,500 for the first year of training workshops, not \$7,500.

Costs for Sample of Sites Using Paideia

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for a school of 500 students	School facilitator		Teacher release time (4 days for all teachers, 25-35 days technical assistance)	\$50,000 to \$70,000 in year 1 for implementation of the Paideia seminar, including training materials, follow-up visits, and other services	School facilitator		Teacher release time	\$40,000 to \$50,000 in year 2 for implementation of coaching; \$30,000 to \$40,000 for assessment
Site 1	Shared Leadership and Seminar Planning teams (made up of school faculty)		Received implementation grant that funded staff development for first 3 years		Shared Leadership and Seminar Planning teams (made up of school faculty)		New staff now trained by current staff (no development funds)	Cost analysis showed the costs of operating this school to be no more/less than other schools in the district (including non-Paideia schools)
Site 2	School facilitator		Teachers sent to professional development opportunities		School facilitator		Teachers sent to professional development opportunities	
Site 3				\$50,000 total for first year of implementation; first-year evaluation is one of the most expensive costs				\$35,000 a year after the first year; West coast schools pay more because of the professional development and technical assistance costs.

Costs for Sample of Sites Using Roots and Wings

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for a school of 500 students ¹	Full-time facilitator and tutors			\$70,000 total plus additional costs for family support team	Same as year 1			\$70,000 per year for years 2 and 3
Site 1	\$107,238	\$82,500	\$14,000	Release time \$16,000	\$107,238	\$15,000	\$7,000	Release time \$4,000
Site 2	\$210,000	\$30,000	\$30,000		\$210,000	\$30,000	\$25,000	
Site 3	1 facilitator, 3 tutors	Unlimited	5 to 5 ½ days		2 Facilitators, 6 Tutors	Unlimited	3 days for incoming personnel, 4 to 5½ days for all	
Site 4	4-5 ² paraprofessionals for tutors, facilitator, parent liaison	\$100,000 reading	\$100,000 reading	\$40,000 MathWings (including materials and staff development)	4-5 paraprofessionals for tutors, facilitator, parent liaison	\$10,000 reading	Varies	\$27,000 MathWings (including materials and staff development)

¹ This estimate is based on the assumption that the school will implement all components of the approach. The cost is lower if fewer components are used.

² The paraprofessionals were at the school previous to implementation of Roots and Wings. However, the school had to provide additional funding to support them after Title I funds were cut.

Costs for Sample of Sites Using School Development Program

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate	Quarter-time facilitator		\$10,000 (5 staff, 2 1-week workshops); \$1,000 principals' academy; additional costs for teacher release time (estimated 10 days for 5 staff and 1 additional day for principal); travel expenses	\$5,000 per district; \$2,000 for technical assistance site visits	Same as year 1		\$5,000 (5 teachers, 1-week workshop)	Same as year 1
Site 1			\$3,000				Same as year 1	
Site 2				\$20,000			\$5,000 (3-5 staff members)	\$3,000
Site 3 46 SDP schools			na (schools pay separately)	\$5,000 fee for district			Same as year 1	Same as year 1

Costs for Sample of Sites Using Success for All

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for a school of 500 students ¹	Full-time facilitator, tutors			\$70,000 total plus additional costs for family support team	Same as year 1			\$30,000 total year 2; \$20,000 total year 3 plus additional costs for family support team
Site 1	Full-time facilitator, tutors	Various supplies	Three visits from SFA staff, technical assistance		Full-time facilitator, tutors	Replacement of consumable supplies	Two visits in year 2, one visit in year 3	
Site 2 600 to 620 students, 90-95% free/ reduced lunch; 55% LEP	Facilitator shared between several schools, other additional staff	Various supplies; have used Spanish-language materials	Two trainers provided 3 2-day visits and trained every teacher; Bilingual consultants; share training with other schools		Costs are less than in first year because of less cost for materials and less training. However, the facilitator was unable to give an exact estimate of cost decrease.			
Site 3	Full-time facilitator, tutors \$35,000 extra needed for tutors	Various supplies	Three visits from SFA staff, technical assistance	\$86,000 total for three years (this is the first year) \$60,000 for materials and initial staff development				The school has been told to expect a large decrease (as much as half). Consistent cost on process and development. \$38,000 for total cost year of the program. Expect \$30,000 total for the 4th year.

¹ This estimate is based on the assumption that the school will implement all components of the approach. The cost is lower if fewer components are used.

Costs for Sample of Sites Using Talent Development High School

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate for a school of 2,000 ¹ students	\$30,000 (two part-time facilitators)	\$1,000 guide books; \$3,600 interest inventories	\$10,000 for 10 days consulting; teacher release time (4 hours/ mostly for 25 teachers); \$47,130 summer training (including stipends)	\$2,500 brochures; \$5,000 facility adaptation; \$2,000-\$5,000 discretionary funds	\$60,000 (two part-time facilitators)	\$1,600 interest inventories	\$400 leadership meeting; attendance workshop; teacher release time (250-500 days total)	\$12,000 technical assistance on curricula; \$2,500 brochures expenses for twilight and Saturday schools; \$5,000-\$10,000 discretionary funds
Site 1	\$47,000 per teacher, 3 full-time teachers and 3 part-time teachers		\$20,000 for professional development		\$47,000 per teacher, 3 full-time teachers and 3 part-time teachers		\$20,000 total for professional development	\$150,000 over 3 years on construction to make class size smaller
Site 2	No additional staff; worked within operating budget	\$4,600 on materials	\$10,000 for professional development		Work within operating budget	Work within operating budget	\$10,000 for professional development	

¹ This estimate is given for a large school (2,000 students) rather than average school (500), because the approach was developed for large high schools. The profile and overview table reports estimates for a school of 500 students, i.e., the total here divided by four.

² These figures represent both the planning year and the summer training sessions.

Costs for Sample of Sites Using Urban Learning Centers

SITE	First Year				Subsequent Years			
	Personnel	Materials	Staff Development	Other	Personnel	Materials	Staff Development	Other
Developer's estimate ¹		Additional costs for technology; Product Design Center; other materials	Additional costs for professional development and planning (20 days for 50-75 teachers)	\$75,000 (training, technical assistance, materials, part-time coordinator)	Full-time coordinator (salary)	Additional costs for technology; Product Design Center; other materials	Additional costs for professional development and planning (20 days for 50-75 teachers)	\$75,000 (training, technical assistance, materials, part-time coordinator)
Site 1 (2,000 students, 87 teachers)				\$27,000 (technology, other materials, training, technical assistance)				\$27,000 (technology, other materials, training)
Site 2 (3,220 students, 139 teachers)				First two years were free because approach was being developed at the school.				\$90,000 (coordinator for health center, parent and community involvement coordinator, materials, training)
Site 3 ²				\$27,000 (materials, training, travel costs, release time)				

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¹ Because this approach is targeted toward large, urban schools enrolling students from kindergarten through 12th grade, costs are estimated for a school of 50 to 75 teachers. The profile and overview table report estimates for a school of 25 teachers. This estimate was calculated by dividing the total by 62.5 (an average number of teachers) for a per-teacher cost, and multiplying the per-teacher cost by 25.

² This site has not formally joined the Urban Learning Centers, but receives many of the same support services as the other Urban Learning Center schools.

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APPENDIX G

DATA COLLECTION ACTIVITIES

Data collection activities consisted of three major tasks: collecting available documentation and research on all of the approaches, interviewing the developer of each approach, and interviewing personnel from a random sample of three to five schools using each of the approaches.

Document Collection

To provide a comprehensive and definitive review of the research available on each of the 24 schoolwide reform approaches, AIR:

- Asked each developer to identify research related to their approach during a telephone interview. Copies of this research were then obtained.
- Conducted a search of the Educational Resources Information Center database from 1976 to the present.
- Reviewed the previous ten years of nine key education research journals, using the *Reader's Guide to Periodical Literature* and the *Education Index*:
 - *American Educational Research Journal*
 - *American Journal of Education*
 - *Educational Leadership*
 - *Educational Research and Evaluation*
 - *Educational Researcher*
 - *Harvard Educational Review*
 - *Journal of Education for Students Placed at Risk*
 - *Review of Educational Research*
 - *School Effectiveness and School Improvement*
- Searched *Education Week* (1988-present) to locate references to approaches and research on the approaches.
- Collected relevant materials from Robert Slavin and Sam Stringfield, Center for Research on the Education of Students Placed at Risk, Johns Hopkins University, who have previously performed overview research on comprehensive school reform approaches.
- Located and obtained articles referenced for each approach in the *Catalog of School Reform Models: First Edition* (NWREL 1998).
- Reviewed bibliographies of research articles collected through the above methods to locate further related research.
- Asked colleagues in the following organizations to review the collected references to identify and help fill potential gaps:

- Regional laboratories and research centers, through the National Education Information Knowledge Association;
- RAND Corporation;
- Representatives from each NAS design, through New American Schools; and
- Educational Research Service.

AJR focused its review on research that had been conducted within the past 10 years. However, we expanded the range of years covered when an approach remained largely unchanged and the bulk of research related to the approach was older.

Developer Interview

Interviews were conducted with developers or developers' staff for each of the 24 approaches using the following questions.¹ Interviews lasted approximately 30 minutes and were conducted after reviewing background material on the approach, but before reviewing the research. The questions asked in the interview are listed.

Guide to Developer Interview

1. Rationale Underlying the Approach
 - a. Please describe the rationale or theory underlying the approach.
 - b. Please describe the goals of the approach with respect to student-level outcomes (e.g., achievement, enrollment, or affective outcomes).
 - c. Please describe the goals of the approach with respect to school-level outcomes (e.g., school climate).
2. Background Information
 - a. Describe briefly what happens in the classroom when the approach is used.
 - b. Which subject areas are included in the approach?
 - c. Which children is the approach directed toward?
 - d. How many children can one teacher serve with the approach in a school period?
 - e. How long has the approach been used in schools?
 - f. How widespread is the use of the approach (i.e., approximate number of schools and districts implementing the approach)?
3. Description of Components of the Approach (For each component, specify if it is critical to the success of the approach.)
 - a. Time and Scheduling Requirements (☐ critical ☐ not critical ☐ not relevant)
 1. What are start-up time requirements for the approach?
 2. Please describe the start-up process (e.g., whole-school, gradually phase in, pace of phase in).
 3. How many days of the school year is the approach to be used?
 4. How many minutes of instructional time are devoted daily to using the approach?
 5. How many sessions (days/minutes) of the approach are typically necessary to achieve educationally significant effects?
 6. What are the unique scheduling requirements?
 - b. Placement and Grouping Requirements (☐ critical ☐ not critical ☐ not relevant)
 1. How are children to be grouped for instruction? Whole class, small group, or individually? Homogeneously or heterogeneously?
 2. How many children are to be in groups?
 3. Does grouping transcend classroom boundaries?
 4. Describe procedure for determining instructional/developmental level of students.
 - c. Staffing Requirements (☐ critical ☐ not critical ☐ not relevant)

1. Are additional personnel required in addition to existing classroom teachers? Specify the number of personnel, in which grades, and what qualifications and certification levels they should have.
2. Is there a limit to the number of children per classroom? If so, what number?
- d. Instructional Materials (☐ critical ☐ not critical ☐ not relevant)
 1. Specify the instructional materials needed for each classroom.
 2. Specify the source(s) of materials (e.g., developers, other publishers, teachers).
 3. Specify how much and what kinds of instructional materials teachers are expected to create/develop.
 4. Are appropriate materials available for children whose primary language is other than English? If yes, describe materials and why they are appropriate.
- e. Professional Development (☐ critical ☐ not critical ☐ not relevant)
 1. *Inservice training—prior to students beginning school year.* What are the requirements for staff development prior to staff beginning to teach the approach (e.g., summer training)? Describe how many hours of training are required prior to each of the first three years of implementing the approach.
 2. *Inservice training—during school year.* What are the requirements for staff development during the school year? Describe how many hours of inservice training are required during each of the first three years of implementing the approach.
 3. *In-class coaching.* Is in-class coaching part of the approach? If so, how much coaching is to be provided for each teacher during each of the first three years of implementing the approach?
 4. *Professional developers.* Please describe the source(s) of professional development (e.g., developer, regional center, professional organization, contractor, district). What are the qualifications and availability of trainers/consultants who provide professional development?
 5. *Technical assistance.* What other forms of technical assistance are available, and from what source?
- f. Monitoring of Student Progress and Performance (☐ critical ☐ not critical ☐ not relevant)
 1. Does the approach include ongoing monitoring of student progress and performance? Describe monitoring procedures.
 2. Does the approach provide remedies when student progress (and/or performance) is inadequate? Describe procedures.
 3. Are there provisions for accelerating high-achieving students? Please describe.
 4. Does the approach target any particular category of students (i.e., by SES, region, ethnicity, disability status, level of schooling, etc.)? Please describe.
- g. Administrative Support (☐ critical ☐ not critical ☐ not relevant)
 1. What are the critical elements of support needed from the principal?
 2. What are the critical elements of support needed from the central administration?
- h. Family or Community Involvement (☐ critical ☐ not critical ☐ not relevant)
 1. Please describe the family or community involvement called for by this approach.
- i. Please describe other critical components of the approach (e.g., peer involvement, computer technology).
4. Cost of Approach (These data should be gathered in interviews with approach developers, independent research reviews, and, if necessary, random calls to sites implementing the approach.)
 - a. What are the extra costs associated with the approach for the first year of implementation? (Specify how many students the costs are for.)
 1. Additional personnel—Roles/titles, full-time, part-time.
 2. Materials—Required and supplementary, please describe.
 3. Staff Development—Release time, stipends, travel/per diem, trainer, fees, other expenses.
 4. Other Costs.
 - b. What are the extra costs for subsequent years?
 1. Additional personnel—Roles/titles, full-time, part-time.
 2. Materials—Required and supplementary, please describe.
 3. Staff Development—Release time, stipends, travel/per diem, trainer, fees, other expenses.
 4. Other Costs.
5. Information on Implementation²
 - a. What information on implementation requirements and procedures is available to schools considering using this approach? (Select one.)
 1. General description of approach requirements.

2. Non-detailed description of implementation requirements of the approach, including at least some of the following: staff development, curriculum, instruction methods, materials, and assessments.
 3. Specific description of implementation requirements and procedures of the approach, including all of the following: staff development, curriculum, instruction methods, materials, assessments, and costs.
- b. What information on costs is available to schools considering using the approach? (Select one.)
1. General information about approach costs.
 2. Estimated cost of approach, including whether or not costs of materials, staff development, additional personnel, etc. are included in the approach's purchase price.
 3. Specific costs of the approach, including whether or not costs of materials, staff development, additional personnel, etc. are included in the approach's purchase price.
6. Replication of Implementation
- a. How stable and widespread is approach implementation? (Select one.)
1. Not fully implemented at the original site.
 2. Fully implemented in the original pilot site(s) for a minimum of one school year.
 3. Fully implemented in the original site(s) for more than three years.
 4. Fully implemented in multiple sites for more than three years.
- b. How many additional schools are expected to implement the approach according to the developer?
1. 1998-1999 _____
 2. 1999-2000 _____
 3. 2000-2001 _____
 4. 2001-2002 _____
 5. 2002-2003 _____

7. Request Materials and Sites

Thank you very much for taking the time to talk about (approach). Thank you, also, for agreeing to send the materials we've requested. I have just two more requests. First, could you recommend articles and evaluations of the approach that we could read? Second, could you please give us a list of all of the sites that are implementing your approach, with contact names.

School Interviews

AIR conducted telephone interviews with staff at three to five randomly selected schools that had adopted each approach. A greater number of sites were chosen for those approaches that were more widely used. In addition, schools were chosen that were not in their first year of implementation. Fifteen-minute interviews were conducted using the following questions.

Guide to School Interview

1. How long has your school been using this approach, and why did your school select this particular approach?
2. In your opinion, what are the strengths of this approach?
3. Do you have any concerns regarding this approach?
4. (a). Has your school made any adaptations to the original design of the approach provided by the developer?
(b). Can you provide an example of a recent adaptation to the developer's original design? [If answered "yes" to question 4(a).]
(c). Why did your school decide to make that particular adaptation?
5. (a). How did you begin implementing this approach in your school? [i.e., all at once, over time]
(b). What do you think were the benefits and disadvantages of this style of implementation?
6. (a). In your experience, is this approach equally effective for all of your students, or have you found it to be more/less effective with some? [i.e., gifted and talented students, special needs students]
(b). If there is a difference, what do you think explains that difference?
(c). Is this approach equally effective for all types of schools and school districts?

7. (a). Do you think most of your teachers share your feelings concerning this approach?
(b). If not, why not, and what do you think would help your teachers to use the approach more effectively?
(c). Has this approach either helped your teachers to work more cooperatively or created/exaggerated differences among staff? Please describe.
(d). Have staff attitudes concerning this approach changed over the course of the time you have been using it? Please explain.
8. (a). Discuss the costs of the approach. Namely, what are the extra costs associated with the approach for the first year of implementation? (Specify how many students the costs are for: _____).
 1. Additional personnel— Full and part-time
 2. Materials— Required and supplementary
 3. Staff Development— Release time, stipend, travel/per diem, trainer, fees, other expenses
 4. Other Costs
(b). What are the extra costs for subsequent years?
 1. Additional personnel— Full and part-time
 2. Materials— Required and supplementary
 3. Staff Development— Release time, stipend, travel/per diem, trainer, fees, other expenses
 4. Other Costs
9. Are your school's costs the same now as when you first started using this approach? If not, what is the same and what is different?
10. Given a second chance, would your school spend its money in the same manner, or have you learned things while using this approach that would lead you to spend your money differently?

¹SOURCE: National Center to Improve the Tools of Educators, 1998. *Evaluation of research on educational approaches (EREA)*. Eugene, OR: Author.

² AIR used materials the developers provided to answer these questions.

APPENDIX H

RESPONSE LETTERS FROM DEVELOPERS

Developers were asked to review one or more drafts of the information the report presents for their approach (i.e., profiles, ratings, and appendices). In addition, AIR invited the developers to submit a two-page "feedback" letter if they wished. Twelve developers accepted AIR's invitation and submitted written comments.

- Accelerated Schools
- America's Choice
- ATLAS Communities
- Audrey Cohen College: Purpose-Centered Education
- Basic Schools Network
- Community for Learning
- Different Ways of Knowing
- Foxfire Fund
- Modern Red Schoolhouse
- Paideia
- Success for All/Roots and Wings
- Urban Learning Centers

These comments are reproduced in this appendix. They include letters; statements or Fax transmittals that were part of longer documents, usually the developers' suggested changes in the profile for their approach; and brief statements.

Some developers raised specific concerns about the profiles or ratings; others offered general comments about their approaches or about this report. AIR received written comments from eleven developers in time to address their concerns. Comments from one developer were received after the report had been finalized.

HENRY M. LEVIN
DAVID JACKS PROFESSOR
OF HIGHER EDUCATION

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22 September 1998

Ms. Becki Herman
Project Director
American Institutes for Research
Pelavin Research Center
1000 Thomas Jefferson Street, NW
Washington, DC 20007

Dear Ms. Herman:

This letter follows up my conversation with you of today. Overall I think that you have done a good job on this report. However, I think that you have under-rated the Accelerated Schools Project by your methodology. I acknowledge that I am a "developer", but I am also a highly recognized evaluator. I am also the former President of the Evaluation Research Society (which is now the American Evaluation Association), Past-Editor of the Review of Educational Research, and author of the most widely used book on cost-effectiveness analysis in education.

The under-rating of the Accelerated Schools results is due to:

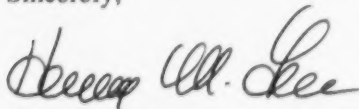
- 1- No consideration given to the large number of year-to-year gains from official records of schools and school districts cited in our Accomplishments of Accelerated Schools and documented in footnotes as to source. Although these are not experimental studies, they are documented results which should count for something. For example, if PS 108 in East Harlem, New York has moved over three years from about 36 percent of students at or above grade level in math and reading to 61 percent at or above grade level in reading and 68 percent at or above grade level in math on CTBS (a school with a 93 percent poverty rate and 100 percent minority), shouldn't this have some weight? What if we have evidence of dozens of schools with this kind of result? Should the lack of a formal study mean that this kind of evidence is worthless?
- 2- Virtually all studies comparing "experimental" schools to control or comparison schools are not as rigorous as that sounds. The reason is that the two groups of schools are not chosen randomly, but the treatment school in almost all of the reforms must get an 80 percent buy-in while the comparison school does not have to show any

ambition whatsoever. Simply measuring results at the comparison school does not mean that it is comparable in ambition, staffing, and commitment to student achievement. And remember that the developer chooses the comparison school, not an outsider.

- 3- Use of one's own achievement measures that are aligned to one's reform will get results that are not found in more "neutral" testing. For example, see Ross and Smith (1994) Elementary School Journal, pp. 121-138 for results on the developers test, but not on district tests. All Accelerated Schools results are on whatever tests districts require, not on the kinds of gifted and talented criteria which we are dedicated to.
- 4- In an evaluation by Success for All evaluators in the State of Washington using SFA measures of outcomes and first year results which do not favor our project which is developmental and doesn't look for results until the third year, Accelerated Schools got slightly better results than Success for All. Using Peabody Picture Vocabulary Test as a control, the two projects showed no difference on oral reading, word identification, and passage comprehension. But, SFA had a .28 effect size advantage on word attack and ASP had a .41 advantage on writing. At the very least one could argue that ASP has at least comparable results with SFA in a direct comparative evaluation (even when the measures and timing would have favored SFA criteria rather than those of ASP). I have enclosed the study.

I would hope that based upon this information you can reconsider the "marginal" effectiveness that you gave to Accelerated Schools.

Sincerely,



Henry M. Levin

David Jacks Professor of Higher Education and Economics

cc. Jennifer Stephens
Kari Marble

October 5, 1998

**Comments on the AIR Study of Comprehensive School Reform Approaches
from the
America's Choice Design Team**

We welcome the AIR study and others on this topic as beginning contributions to what we hope will be a growing literature on comprehensive school reform. But this particular study is, we believe, deeply flawed. The study rated the programs on four dimensions. We will comment on the way each of these evaluations were applied to the America's Choice Design.

Strength of Research Base Generally, when this term is used, it refers to the quality and extent of research findings on which the design is based. The question being answered is whether and to what degree the design is based on what is actually known about the factors that account for high student performance.

Our design is in fact based on extensive reviews of the research in the many fields that are covered by the design, including learning theory (one of the nation's leading cognitive scientists is associated with our team), standards and assessments (in which we are among the nation's leading authorities), curriculum (with particular attention to reading and writing) and modern management. Our own organization has done one of the most extensive qualitative international comparative studies of education ever undertaken. And we have had our design reviewed by several eminent researchers to make sure that it reflects the best research.

Ideally, of course, we would have undertaken a formal comprehensive meta-study of the many research fields that bear on our design. AIR appeared to have been looking for such a study or for original research by the design team. But neither New American Schools nor the foundations that have supported our work asked us to prepare such studies or do such research nor did they provide the funds that would have made it possible.

Effects on Students The America's Choice Design incorporates a commitment to the New Standards Performance Standards and the New Standards Reference Examinations, which have been available for less than two years. Because, therefore, we did not have available comparative data based on our own standards and assessments, we asked jurisdictions with which we have been working to share the data they had on whatever tests and assessments they were using. There is space here for only three examples:

In Chicago, where we had been asked to take on 13 of the city's worst-performing elementary and middle schools, the percentage of third and eighth grade students scoring at or above the national norms on the Iowa Test of Basic Skills rose from 14.6 percent on average when we started in 1996 to 19.9 percent in 1998 in reading, and from 16.4 percent to 23.6 percent on average in the same period in mathematics.

In Rochester, New York, where we were working with three elementary and middle schools, the average proportion of students meeting the standard on the statewide reading tests went from 69 percent to 90 percent from the 94-95 school year to the 96-97 school year. That proportion went from 92 percent to 98 percent in mathematics.

After our first year in Kentucky, State Commissioner of Education Tom Boysen announced that the schools associated with our design had made greater gains on the statewide assessment than the schools associated with any of the many other outside technical assistance networks operating in the state.

We supplied data of this kind to AIR. But AIR evidently did not consider it in arriving at their judgments because it did not come in the context of formal research studies using "carefully matched control groups" and so on.

In any case, since our standards and assessments are now available and our work has been fully codified into a formal design, we have asked CPRE, arguably the nation's leading educational program evaluators, to evaluate and report on the implementation and effects of the America's Choice Design. That work begins in the fall of 1998.

In the meantime, we would be happy to share the data we have from our school, district and state partners on the effects of our work thus far.

Ease of Implementation Unfortunately, the AIR researchers apparently did not have an opportunity to ask our school, district and state partners what it has been like to work with us and how easy it has been to implement our design. Here is a typical comment from Dr. Judith Rizzo, Deputy Chancellor, New York City Public Schools:

"We like your standards. It begins there but doesn't end there. Most of what we've purchased is your expertise and thinking and talent to move, I think, in the direction we want to take the system. The quality of the standards was the most compelling feature, as well as the NCEE's willingness and understanding to customize them to make them feel and smell like New York City kids' work, which was an absolutely essential ingredient. The quality of the NCEE's professional development work that occurred during the process was the best I've ever seen. It embodied all of what I know good solid professional development to be. It modeled for our participants the kind of behaviors that we have to demonstrate in order to get kids to achieve the standards. Because it is experiential, it did this in ways that my own words could never have done. My testament is the fact that we continue with the work, in math and applied learning. Ann Borthwick is the most sought-after consultant I've ever seen in this system. She's practically part of the system. She couldn't be more invested in our system if her paycheck had the name of the Board of Education on it. Consultants come and go, but she's staying in town. The superintendents adore her."

The highest score one could get on the AIR scale requires successful implementation in only five schools. There are hundreds of schools in our network and we would be happy to point any interested party to more than five of them in which the faculty members would attest to the strong and effective implementation support they received from the America's Choice team.

Costs The AIR report showed our design as being on the high end of the expense dimension, when all costs are accounted for. That may or may not be true; we simply do not know, because we are not privy to the data that they used to make this determination. It is true that it actually costs participating schools more than we charge. The most expensive part of the additional charges is the cost of the faculty members whose time — in whole or in part — must be dedicated to implementation of the America's Choice Design, like the Literacy Coordinator. The reality is that, in most cases, these are faculty members already on the staff who are redirected to this work from similar work that they are already doing, like Title I teachers or reading resource teachers, so there is no net additional cost for the school. Because we do not know how the AIR team treated these expenses, we cannot comment on its accuracy.

ATLAS Communities

Authentic
Teaching,
Learning, and
Assessment for all
Students

October 6, 1998

Response from ATLAS Communities

Founded from a Partnership of
Coalition of Essential Schools
Education Development Center, Inc.
Harvard Project Zero
School Development Program
at Yale Child Study Center

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www.edc.org/FSC/ATLAS

We welcome the opportunity for practitioners to learn about ATLAS Communities. However, we believe it is important that your readers understand the special nature of the ATLAS approach. It is a framework for transforming a preK-12 pathway of schools. It is a journey for the schools that agree to participate in ATLAS; to assess strengths and needs, learn about the components of the ATLAS framework, develop implementation goals, benchmarks, and plans, and move through the iterative cycle of planning, action, and reflection. Because the ATLAS ideas, tool, and strategies build on the expertise and wisdom that already reside in every school and district, no two pathways look exactly the same.

The following vignette highlights the power of the ATLAS framework:

"For many teachers and principals, education reform has become a confusing whirlwind of unconnected initiatives. One day the faculty is trying out team teaching, the next day they're learning about project-based lessons. It's all very exciting, but is the end result improved student achievement?

Too often the answer is no, because the staff lacks a coherent way to tie new techniques into a meaningful coordinated push. At Memphis' Booker T. Washington High School, Principal Elsie Lewis Bailey confronted this issue.

"We had been using new strategies here and there, as we read about them, or read what another school had done," Bailey recalls. The ATLAS design ended her piecemeal search for new ideas and practices, giving Bailey and her teachers a ready-made, research-based organizing framework."*

"With ATLAS, we don't have to look for strategies. ATLAS has given us an entire framework around which to base our instructional program."

Elsie L. Bailey, Principal

* from New American Schools - Annual Report 1997

Unlike many approaches, ATLAS did not exist prior to 1992. In 1992, the four founders of ATLAS, Ted Sizer from the Coalition of Essential Schools, Howard Gardner from Harvard Project Zero, Janet Whitla from the Education Development Center, and James Comer from the Yale School Development Project, had a vision that they could meld the strengths of each of their programs to create a truly comprehensive approach to school improvement. ATLAS is a continuing embodiment of that vision. Therefore, ATLAS today is very different from ATLAS in 1993. Not different in the overarching framework of a pathway, fundamental principles and habits, or in the elements of school change—but in the way we approach our work, in the materials we use, and the resources we provide. And ATLAS in 2003 will be different from ATLAS today.

Because ATLAS is a continuing evolving framework for improvement, there is not a wealth of research, as defined by AIR, to provide evidence of student effects, the ultimate outcome. The AIR definition of research base and effectiveness implies that a traditional study of student outcomes with control groups is necessary. Because ATLAS requires a high magnitude of teacher change, ATLAS schools are only now developing a large enough cohort of teachers to look at student outcomes in a more systematic way. ATLAS is developing a research plan to engage in such research beginning in the 98/99 school year.

However, we and our pathways do have evidence that ATLAS has been making a difference. The implementation of the ATLAS framework in schools across the country—in both urban and suburban districts—has led to marked improvements in school culture, and significant changes in instructional methods, student habits and outcomes. Standardized test scores have increased in all pathways that have worked with the ATLAS framework for three years or more. Students and teachers in all pathways report that students are more interested in their schoolwork. Students comment that their work is different in nature, that they are learning more, and that their successes are more rewarding.

A teacher said that ATLAS taught the district that professional development is “not workshops on this or that,” but an understanding that the educational process is complicated and connected, so that professional development becomes not a matter of “pinpointing an issue,” but of “learning from each other.” In Gorham, family participation in student-led learning conferences is nearly 100 percent. Family Centers have been established in several pathways, and many parents are being trained as school volunteers.

In Memphis, the high school scores on ninth-grade state assessments for reading and math improved for the fourth consecutive year. In Prince George's County, reading scores jumped 13 per cent in two years. In Norfolk, there was a 15 per cent increase in achievement tests for research, writing and science—all areas directly related to the eleventh grade exhibition tasks. Norfolk scores also improved in middle school reading, writing and mathematics. In Philadelphia, four Strawberry Mansion cluster schools exceeded performance targets after two years of ATLAS implementation.

ATLAS Schools are making a difference for their children.

AUDREY COHEN COLLEGE

Office of the Vice President

October 5, 1998

Ms. Becki Herman
Project Director
American Institutes for Research
Pelavin Research Center
1000 Thomas Jefferson Street, N.W.
Washington, D.C. 20007

Dear Ms. Herman:

We are in receipt of the draft copy of the American Institutes for Research (AIR) summary of comprehensive school reform approaches, *Judging Schoolwide Reform: A Teacher and Administrator Guide to 26 Noteworthy Approaches*. We appreciate the opportunity you have provided to dispute the rating as it relates to the Audrey Cohen College System of Education. We do agree with your statement which says that, "a very conservative rating procedure was used to complete the overview table", and do firmly believe that your approach did not result in the rating that Purpose-Centered Education* deserves. We are therefore obliged to respond to the summary you have provided and address several areas where, in our opinion, inappropriate judgments have been made by AIR.

Since the College was founded it began developing a new paradigm for education. Emerging from a number of years of research on the educational implications of the changing economy and reflecting the perception that the emergence of a technologically based global society required a fundamentally new approach to learning, a new educational paradigm was developed by the College. Born as the College's new paradigm, Purpose-Centered Education* focuses all student learning — from mathematics and science to English and social studies — on a complex and meaningful, overarching Purpose each semester that contributes to the world at large.

Audrey Cohen College Schools have been implementing Purpose-Centered Education, on the elementary and secondary levels, across the country and monitoring student academic progress from the inception of the use of its paradigm in grades kindergarten through grade twelve. The College annually publishes *Signs of Success*, which contains comparative data on academic and related student progress. **Standardized test scores in reading, mathematics, and language show an overall improvement during the years that Audrey Cohen College Schools have implemented Purpose-Centered Education.** Students take greater charge of their learning and value their knowledge as an essential ingredient in achieving success as they are assessed in how they have made positive differences outside their classroom. Where attendance was a concern or discipline problems were a challenge, attendance improved and discipline problems decreased. Students in Audrey Cohen College Schools use knowledge - including the core subjects of mathematics, science, history, English/Language Arts and geography - as they take Constructive Action® to improve their communities.

The AIR judgement related to the "Effect on Students", is limited. For example, the studies conducted by the Mississippi State University's Program for Research and Evaluation (PREPS) ranked an Audrey Cohen College School located in Hollandale, Mississippi second, in the twenty-six of the one hundred fifty-two school districts statewide that have made a difference in instruction. PREPS takes into account the district's economic levels not considered in the state's accreditation system which is based on test performance. In addition, the trends at this Audrey Cohen College School, from the 1994/95 through 1996/97 school years, showed the ITBS total reading

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scores **increased** an average .95% in grade 4, 22.5% in grade 5 and 7.88% in grade 6. During the same years, scores on the *ITBS* language scores **increased** an average 8.23% in grade 4, 20.61% in grade 5 and 13.73 % in grade 6 and on the mathematics portion of the *ITBS* scores increased an average of 8.29% in grade 4, by an average 11.04% in grade 5 and by an average 5.12% in grade 6.

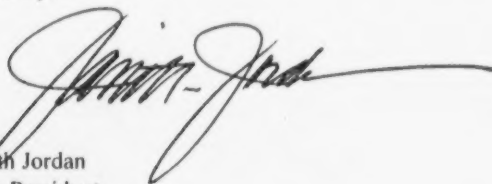
Furthermore, in the *ITBS* Batteries for grade 5 and grade 6, this school ranked 1st and 4th respectively statewide, with the fewest number of students in the lowest quartile and 10th in the state in "attendance as % of enrollment" at 98.07%. Other schools using Purpose-Centered Education have made similar or greater gains. For example, one Memphis City School by the end of the second year of implementing Purpose-Centered Education, grade 8 scores on the *TCAP Writing Assessment* increased by an average of 34.25%, and grade 11 scores increased by an average of 381.7%. During the same period, students in grade 9 showed an average increase of 3.42% in mathematics on the *TCAP Competency*. Simultaneously, the number of suspensions decreased by 16.1%.

In another Audrey Cohen College School located in Seattle, Washington, which began using Purpose-Centered Education in the 1996/97 school year, grade 3 scored 6.65% **higher** than the district for "students who did not meet either the 'advanced' or 'below standard' level". Grade 5 was 22.3% **higher** than the district for "within standard" level of performance on the *Direct Writing Assessment*. This represents an increase of 60.1% in Grade 5, from the prior year. Also in the 1997/98 school year, this school's grade 3 scored 97.4% **higher** than the district for students who were in the "advanced level" of performance for the *Direct Writing Assessment* summary. This represents a 61.5% **increase** over the prior year.

We believe that the substantial and overall consistent upward trend in scores as evidenced by the results of a range of standardized tests clearly attests to the effectiveness that Purpose-Centered Education has on students in Audrey Cohen College Schools.

The standard research notions that were used by AIR to judge Purpose-Centered Education unfortunately do not take into account the longevity of the use of the design kindergarten through grade twelve. Voluminous inaccuracies are present in the draft version of *Judging Schoolwide Reform: A Teacher and Administrator Guide to 26 Noteworthy Approaches*. We encourage members of the American Association of School Administrators, American Federation of Teachers, National Association of Elementary School Principals, National Association of Secondary School Principals, National Education Association and any other interested parties to contact Audrey Cohen College directly for further current and accurate information as it relates to research and implementation.

Sincerely,



Janith Jordan
Vice President
Audrey Cohen College
212-343-1234 extension 3400
janithj@aol.com
<http://www.audrey-cohen.edu>

The Basic Schools Network

Dr. Mary Ellen Bafumo, Director

Addendum Statement

As the Basic School Network awaits the results of its three year pilot school evaluation, preliminary results are overwhelmingly positive.

- **4 schools were identified as exemplary for their standardized test score achievement:**
 1. David Cox Road Elementary, Charlotte, North Carolina
 2. Jackson-Keller Elementary, San Antonio, Texas
 3. Public School 7, New York City, New York
 4. Willard Model School, Norfolk, Virginia
- **Willard Model School** students, predominantly African-American, had test scores that **surpassed** the national norm for non-minority students
- **Public School 7**, in New York's Spanish Harlem, was removed from the State's SURR list (school under registration review) in the 1 ½ years it has been a Basic School, - a fraction of the normal time for improvement. *The New York Times* ran a headline about P.S. 7's news. Principal Robert Negrón noted, "Our progress would not have been possible without our model of excellence, The Basic School."
- **Irving Weber Elementary Teacher, Gina Rau**, received a national award from the **Subaru Corporation** for the service project she conducted with her classes.
- **Clinton Kelly Elementary in Portland, Oregon** was cited by the **U.S. Department of Education** for its model parent involvement program - "Kelly House."
- **Prairie Star Elementary in Leawood, Kansas** and **Mantua Elementary in Fairfax, Virginia** have consistently had high test scores among their student populations.
- **State Departments of Education in California, Connecticut, Michigan, New York and Texas** are interested in the Basic School as a model for their schools in need of improvement.
- **Evaluation results show that the Basic School has these positive effects:**
 1. Provides schools with a common language and focus
 2. Is responsive to diversity, is open and flexible
 3. Creates cohesiveness, reduces teacher isolation
 4. Involves and empowers teachers, parents, students, communities
 5. Creates an exemplary culture in the school
 6. Provides intangibles (caring culture) that improve test scores, discipline, absentee rates

Schools interested in renewal can be assured that the activities of the Network were developed using years of research on effective schools and best educational practices. The research base for the Basic School Network's four priorities for school renewal are extensively documented in Ernest L. Boyer's report, *The Basic School: A Community for Learning*, available through Jossey-Bass., Inc. Primary researchers and practitioners whose work informed the concepts in the report are listed below. A

reading of any of their works demonstrates rigorous scholarship and deep engagement in practice.

Research Base

Community:	Thomas Sergiovanni.
Curriculum:	James L. Bean Heidi Hayes Jacobs Susan Drake
Climate:	Robert Slavin David and Robert Johnson
Character:	Thomas Lickona Kevin Ryan Eric Schaps
Parent Involvement:	Joyce Epstein

Pilot schools in the Basic School Network completed extensive parent, teacher, principal surveys to collect base-line data in year one of the project and for two years after that. Results showed progress in each of the four priorities for renewal. Some pertinent results are listed below.

Survey Data 1995-1997

- high ratings for parent -teacher, teacher-student relations
- the school's climate is respectful and welcoming to children, parents, teachers
- teachers are perceived as knowledgeable, skilled role models for children
- many programs exist to meet the social, emotional & learning needs of children
- high levels of teacher satisfaction
- high levels of parent satisfaction
- high use of community resources to expand learning opportunities
- many business partnerships to enhance resources in the school
- classrooms that are well supplied with learning resources
- increasing levels of technology use in classrooms



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October 29, 1998

Becki Herman
Project Director, Consumer's Report
American Institutes for Research (AIR)
100 Jefferson St., NW
Suite 400
Washington, DC 20007

Dear Becki:

Thank you for the chance to provide feedback on the information you and your colleagues have developed for our program. There is voluminous program validation research and evaluation documentation of field-based implementation and replication spanning over twenty years of evolving research and development of the Community for Learning (CFL) program. We greatly appreciate the time you and your colleagues have taken in reviewing the research based on the design and implementation outcomes of our program.

The purpose of this letter is to call attention to two areas of strength in the research base of our program that were not adequately portrayed in your analysis. We fully appreciate and understand the time and space constraints and the difficulty deciding how best to focus your review.

First, the development of our program has evolved since 1968. The design of each component of our program was based on field-based research that has gone through iterations of validation studies. Although the validation research on the Community for Learning as a school-wide comprehensive school reform model began in the 90's, the implementation research of the core instruction program, known as the Adaptive Learning Environments Model (ALEM), began in the late 60's. This research has been extensive and the findings have been published in some of the most rigorously peer-reviewed research journals, such as *American Educational Research Journal*, *Child Development*, *Contemporary Educational Psychology*, *Curriculum Inquiry*, *Elementary School Journal*, *Research in Middle Level Education Quarterly* and *Review of Educational Research*. In addition, the research has also been published in some of the most widely read, policy- and practitioner-oriented journals, such as *Educational Leadership*, *Education and Urban Society*, *KAPPAN*, *Journal of Teacher Education*, *Educational Policy*, *Policy Studies Review*, and *Teacher Education and Special Education*.

Secondly, there is a lack of attention and understanding of the broad-based component-building research that led to the comprehensive school-wide implementation of the Community for Learning program. A major strength of the research base of our program is a systematic process of development and validation of each of the critical components of the program and intensive study of program "feasibility" and "effects." One example is our validation research in the development of the degree of program implementation measures, which is the basis for the databased professional development program that supports school-based implementation of the Community for Learning program. This empirical research was published in *Curriculum Inquiry*, one of the most rigorously peer-refereed journals. Although it was not selected for review, it was one of the most important component-building research bases of our program -- implementation requirements for achieving a high degree of program implementation.

One area of concern in the section on the research base included in your report is the lack of attention to the implementation variables that we believe to be central to effective and widespread implementation of any innovative program that requires major rethinking and restructuring in the ways schools operate. For example, a critical aspect of the implementation is the use of teacher and student time. The research on how to organize the classroom and school day to enable teachers to spend more time for teaching and learning was an area of special attention in the development of the Community for Learning program. This research was published in *American*

Educational Research Journal. The study included 156 teachers from across 10 school sites from rural, urban, suburban and small town schools with student populations ranging from low to middle SES backgrounds. The data included classroom observations of time use by teachers as well as student achievement outcomes. Your reviewers rated "2" on this cross-sectional analysis study for "duration" and "1" on the study design.

In another study on time use, the reviewer completely misses the main point of the study, which was an article published in *Remedial and Special Education* on a study of days to learn. The whole point of the study was to show that all students can learn, though some may take more time than others in achieving the same curricular objectives. They don't need to be labeled to receive intensive instruction and to allow greater amounts of learning time. The conclusion of the study shows clearly that students labeled as special education and Title I students were able to acquire mastery of the same curriculum objectives as students in "general education" without "special" labels. However, your review concluded from this study of time and student learning that the program is not effective, because special education and Title I children took more days to achieve mastery of the same curriculum objective. It does not require rocket science to validate that some children require more time for learning certain objectives than others; variation even exists in the most homogeneously grouped students. The main goal is to find ways to ensure that every student has an equal opportunity to achieve mastery, whether he or she needs more time or more intensive instruction. Thus, the program is effective because students with diverse needs are able to meet the same curriculum standards.

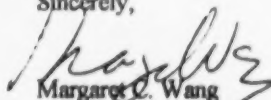
I note these illustrations to call attention to the complexity of providing a synopsis of a program that is designed with a "comprehensive" approach. The nature of being "comprehensive" encompasses addressing not only the powerful teaching of subject matter, but also all of the support systems, including family and community efforts that are necessary to ensure learning success of each student. A major strength of the research-base of our program is the attention to school-based implementation that provides teachers and administrators with the support system to ensure effective implementation. This is critical in providing the organizational and structural support for managing the classroom environment to provide students with responsive strategies that foster, not only high standards of subject matter achievement, but also the development of their self-responsibility and capacity for exploration and learning beyond the basic literacy skills.

Many of our research studies on program components were not reviewed or reviewed out of context. I mention these concerns not to be critical of the criteria you have chosen for your review. As the reviewer, you had to make decisions based on consideration of the wide span of programs. Some are specifically focused on curriculum, and others like ours are much more comprehensive in addressing the schooling needs of children and youth. Having recently completed a research synthesis on widely implemented research-based programs (published in the April, 1998 issue of *Educational Leadership*), I understand and respect decisions that were necessary to make sense of the vast research base of the programs you reviewed. I hope my illustrations provide another view of program evaluation that may be informative for the readers.

Finally, I congratulate you and your colleagues for taking on this enormous task and providing a timely service to the field. I am sure this will be a widely used reference for teachers and administrators in making their programming decisions. I know we at the Laboratory for Student Success, the Mid-Atlantic Educational Regional Laboratory at Temple University Center for Research in Human Development and Education, will certainly find this a useful tool in our efforts to provide research-based information on innovative practices and programs that work for educators and policy makers in their state and local reform efforts.

My best wishes for your continuing success.

Sincerely,


Margaret C. Wang
Professor and Director

MCW/mam



**The
Galef
Institute**

January 22, 1999

Dear Colleagues,

Thank you for your interest in the research on *Different Ways of Knowing*.

We have ongoing studies of the work in all our sites. Of particular interest to Title I schools are two new studies—one in 11 schools in the San Francisco Unified School District and the other tracking 83 Title I schools in Kentucky.

Students involved in *Different Ways of Knowing* in San Francisco represent the diversity of the District—26% are Latino, 21% Chinese, 16% African American, 13% White, 12% Filipino, 11% Other Non-White, and 1% Native American.

The District measures of academic success show that students engaged in *Different Ways of Knowing* have more than a year's growth in their scores in the CTBS test for reading comprehension—the students' mean Normal Curve Equivalent (NCE) increased significantly. The 1997 mean Normal Curve Equivalent for the fourth grade CTBS test in reading comprehension for students with matched reading scores was 48.39 (n=1248). By 1998 the mean NCE was 51.47. This difference is statistically significant.

In Kentucky, a study examines our work with 83 whole school Title I elementary schools where 75 percent or more teachers implement *Different Ways of Knowing*.

We've worked at scale in Kentucky for four years—reaching more than 5,000 teachers in 350 primary and elementary schools statewide.

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The state's standardized test results—the 1997 Total Accountability Index (consolidating reading, writing, math, social studies, science, living, and arts and humanities scores)—shows that 61 of the 83 schools achieved 90 percent or more of their two-year school improvement goal in one year. The 83 schools had test results ranging between 68.9 percent and 119.8 percent of their two-year improvement goal; 32 of them achieved 100 percent or more.

The average percentage gain among these 83 Title I whole schools, after one year of the two-year cycle, was 96.5 percent. This compares with the average percentage gain of 46.6 percent of all Kentucky elementary schools in the same period.

Given the strong correlation between student achievement and economic indicators, the results of both these studies are encouraging. They show that traditionally low-achieving schools can have dramatic improvement in test scores. The research demonstrates that quality results can be achieved in a wide variety of school settings.

Cordially,

A handwritten signature in cursive script that reads "Sue Beauregard". The signature is fluid and elegant, with the first name "Sue" and last name "Beauregard" clearly distinguishable.

Sue Beauregard
Senior Vice President

The Foxfire Approach: An Educational Framework

The Foxfire Approach provides a framework, articulated by eleven Core Practices, which guides teachers' decisions in the materials, methods, and strategies for use with their students. We believe such decisions must be made within the context of the teaching environment. We know that we could never control or predict the variables that should and do affect what constitutes a good decision within the complex and individual cultures of the schools and classrooms.

Research and the Core Practices

Each Core Practice is supported by the findings of studies conducted by researchers over the years indicating that effective use of the practice will create powerful and productive learning. For purposes of demonstration, one classic study will be offered here.

In 1929, McMillan published a report authored by Ellsworth-Collings titled "An Experiment with a Project Curriculum." The four-year study of three schools in Pineville, Missouri, included two control schools and an "experimental school." The experimental school used the community as a learning laboratory, intentionally blurring boundaries between school and community. Students saw immediate use for the content under study by exploring questions and curriculum in the world outside the classroom walls.

At the completion of the four-year study, standardized test scores of students in the experimental schools were 35% higher than those in control schools. Their attendance rose 93% as opposed to 6% in control schools, and 100% of students completing the eighth grade went on to high school, an 85% advantage over control schools. Furthermore, the report pointed out, students in the experimental school developed qualities of initiative, judgment, and self-direction not evident in students in the control schools.

Purposeful Research

Because the Core Practices identify recognized effective teaching practices, the organizational questions we pose are "How effective are we in training and supporting teachers in the use of the practices?" and "What more can we do to strengthen our services?"

Therefore, our research focuses on implementation—how teachers go about implementing the Core Practice, what barriers they face, what supports they believe they need, what points of entry they find most helpful, and how their needs change over time. To answer these questions, we use a three-pronged approach, including research conducted by an independent firm; teacher accounts of their experiences, including teacher research; and study groups, task forces, and focus groups.

Independent Research

Research conducted by Project Evaluation and Research Group of Cambridge, Massachusetts, explored the effectiveness of our introductory course, the first year of implementation, and the ways teachers' use of the Core Practices change over time. The findings of these studies have been used to guide further study and exploration, as well as to prompt the development of new materials and support programs.

Teacher Accounts of their Experiences

Written accounts of teachers' experiences, including teacher research (which may include reports of student performance), are gathered from across grade levels, content areas, geographic regions, school settings, and school populations. As new materials and services are developed, these accounts are used to verify or challenge the findings of more formal outsider research.

Task Forces, Focus Groups, and Committees

Written and telephone surveys of network and national membership seek broader input on issues that emerge through research and teacher accounts. This information is used to inform decisions and discussions of focus groups, task forces, and committees as they use the assembled data, along with their own experiences, to construct new programs and materials and to strengthen existing training programs.

In this way, Foxfire's work remains teacher-focused, clearly and powerfully connected to the work and lives of practicing teachers. Because of its dynamic nature, the Approach can meet emerging trends and challenges while remaining true to the tenets articulated by the Core Practices.



October 8, 1998

Becki Herman
Project Director
American Institutes for Research
1000 Thomas Jefferson Street, N.W.
Washington, DC 20007

Dear Becki:

I appreciate your continued attention and responsiveness to the many comments and concerns about the draft report "Judging Schoolwide Reform: A Teacher And Administrator Guide to 26 Noteworthy Approaches". In talking with other folks in the field, I continued to be concerned that your analysis rendered us with "no acceptable research" when other accepted articles seemed less credible than the documentation we have from state tests administered in MRSh schools.

Given the interest of our school districts in performance on state tests, we have come to rely almost exclusively on those results to evaluate our success. This data is public and thus, available for anyone to corroborate. We use state (when only one school is in the district) or district scores as comparison groups and assess rates of growth in those meeting state standards (whenever we can get that data). I am enclosing for you all of the 1997-98 data we have. It is inclusive of all elementary schools we work with except for Seattle (where we have one school) and Maryland (where we have 11 schools). In the case of Maryland, the data has yet to be made publicly available.

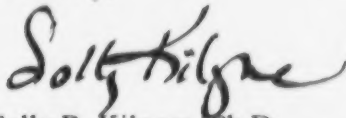
I would consider our data meeting more rigorous standards and of greater interest to your readers than much of what has counted as research in your compendium and respectfully request you reconsider your evaluation. My claim is simply that our data is collected by an agency completely independent of this organization, rather than a test that is designed by us but not by state or local officials. Moreover, comparison of growth rates does control for different starting points and thus approximates a control group comparison better than raw score data.

Becki Herman
October 8, 1998
Page Two

Furthermore, the ability of any researcher to validate our analysis is far better than tests designed and collected by a researcher. Since the state test score data is publicly available data, the research analysis can be replicated or reanalyzed—a condition not met with “private” tests often published in peer reviewed journals.

I sincerely appreciate the challenges that you are encountering with so many folks “bending your ear” and greatly appreciate your patience and attention. If any other information would be useful to you, please let me know.

Sincerely,

A handwritten signature in cursive script, reading "Sally B. Kilgore". The signature is fluid and elegant, with the first letters of the first and last names being capitalized and prominent.

Sally B. Kilgore, Ph.D.
President

October 5, 1998

Paideia

Terry Roberts, The National Paideia Center

Our work is increasingly focused on developing networks of Paideia schools in partnership school districts (notably Guilford County, NC and Broward County, FL). We are pursuing this strategy in order to create supportive networks of schools dedicated to school-wide Paideia implementation

Success for All and Roots and Wings

Dr. Robert Slavin, Johns Hopkins University

The profile of Success for All in "Judging Schoolwide Reform" is mostly a good description of the program and the research done on it. However, there are several areas in which clarification is needed.

First, the final paragraph on implementation problems is misleading. It is true that some schools have had difficulties in the long run maintaining adequate numbers of tutors and family support staff. This is an issue schools struggle with as Title I funds go up and down. However, almost every one of our schools has maintained the reading programs, the regrouping, a full-time facilitator, and the eight-week assessments. Modifications may be made in these over time, but these core elements exist in virtually every one of the schools we currently work with, even schools in their tenth implementation year. Also, it is important to note that both of the Rand implementation studies by Sue Bodilly found Roots & Wings (and therefore Success for All) to be the most completely implemented of the New American Schools designs. About two dozen schools have completely dropped the program, which is a different story, but that is about 2% of all school that have ever been involved, a remarkable achievement by any standard.

Another misleading section related to costs. The profile gives the costs as we do, about \$70,000 in the first year, \$30,000 in the second, and \$20,000 in the third, for materials, training, travel and so on. However, it then gives much higher costs, including personnel. These are accurate in one sense, but misleading, because no school has ever hired hundreds of thousands of dollars worth of new staff to implement Success for All. Instead, schools reallocate existing staff, mostly from Title I, state compensatory education, special education, and bilingual/ESL resources, to provide the required facilitator and tutors. To describe these as extra staff is incorrect. If a school was spending \$200,000 per year on Title I staff, then adopts Success for All, and is still spending \$200,000 on Title I staff, would the staff cost of Success for All be \$200,000? Obviously not. The additional staff cost due to Success for All would be zero. If that same school chose a model that did not require any change in the roles of Title I staff, or made no change at all, it would still have \$200,000 in Title I staff.

The description of research on Success for All is generally accurate. However, it would be important to note that the two main studies of Roots & Wings also demonstrated substantially positive impacts on reading, writing, and language arts on state assessments (one in Maryland, one in Tennessee). These effects can reasonably be ascribed to Success for All, which is the

reading/writing/language component of Roots & Wings. The Tennessee study is particularly important in this regard, as it was a completely independent evaluation carried out by William Sanders, creator of the highly regarded Tennessee Value-Added Assessment System. Sanders compared eight Memphis Roots & Wings schools to matched controls and to other Memphis schools on a measure comparing actual to expected gain. After two years, R&W scores for reading were 128% of expected gain, compared to 93% for matched controls and 101% for other Memphis schools. In language, the scores were 126% of expected gains for R&W, 99% for controls, and 100% for other schools.



Urban Learning Centers

A New American Schools Design

October 28, 1998

Ms. Becki Herman
Pelavin Research Center
1000 Thomas Jefferson Street, N.W.
Washington, D.C. 20007

Dear Ms. Herman:

Background. The Urban Learning Centers design for comprehensive reform has a heart and the heart of its work is to create communities in schools which lead to the high achievement and learning of every child. Children in urban settings are sometimes left alone without a community or family support system. Urban schools are often large, without a common vision or communication among teachers about their goals for students. Sometimes those schools are isolated from services available to assist children and their families with their needs. Building community on all of these fronts is essential in the work of Urban Learning Centers.

We know from studies of schoolwide reform and research on child development that for schools to succeed in low-income, urban areas they must address teaching and learning in new ways, plus have a foundation of quality management practices and inclusive governance systems that involve all of the staff and parents in a common vision for success. In addition, children in urban settings and their families may need additional supports for learning which involve the school forming partnerships with health and social service agencies in the community. If you want to ensure student success, you need to engage a platoon of supporters to assist you in your work.

Effects on Students. Our research tells us we are on the right track. Here is the good news: As of 1997, as both model Learning Centers grew to K-12 campuses they reduced rates of both teacher and student absenteeism. Transience of students at one site was reduced 30% over four years.

Achievements at both high schools are impressive. They demonstrated high attendance, strong grade-point averages and very low dropout rates (6% compared with 28% in Los Angeles). Nearly 100% of the seniors graduated on schedule and all went on to post-secondary education or the armed forces, 95% went on to college. In fact, 14% of the students at one school and 12% at the other planned to attend the University of California, placing the high schools among the top 25% of all schools as measured by the High Schools Performance Report of the California Department of Education. SAT scores were above those in neighboring schools. At Foshay, 27% of the juniors scored above 1000, close to the national average of 1013.

Parent presence at both schools is up dramatically. In the past, parents of students at Elizabeth Learning Center came on campus solely for special occasions. Now, more than 1,000 parents and others attend adult education classes there each week. Parents and community members volunteer over 12,000 hours each year.

Two years ago, Los Angeles Unified School District switched norm-referenced tests. In the past two years of Stanford Nine test administration at each site, nearly all scores in reading, math and language have increased. At Foshay, middle school achievement in reading (nearly 800 students per grade in 6th, 7th, and 8th grade) on the Stanford test is nearly double the score at the neighboring middle school.

Implementation. The cost of the Urban Learning Centers design varies according to the size of the school. Orientation to model, conducting a self-study and mapping the resources of the school can be completed over a 3-6 month period for \$30,000. Full implementation of years of design components ranges from \$60,000 to \$75,000 for schools with 60 to 100 teachers respectively. An Urban Learning Centers Site Director and a technical assistance team work with the school to plan and conduct professional development restructure governance and management systems as needed, and recruit community resources to support learning. Planning how to use technology effectively to enhance learning and improve efficiency, plus improving communications at the school, are also part of the work accomplished during implementation.

Schools which will benefit most from selecting the Urban Learning Centers design are those which are looking for a comprehensive approach to reform which will sustain continuous improvement. They are schools seeking to teach students using high standards for all subject areas and are willing to regularly use data to assess the achievements of children. Large schools in which children are not yet succeeding at high levels and in which size makes communication difficult may gain the most from this approach to reform. Urban Learning Centers works with them to create communities for all learners including children, their parents and families, and the educators at the school.

We welcome visitors to our two model sites in central Los Angeles.

Yours very truly,

Greta S. Pruitt, Project Director